

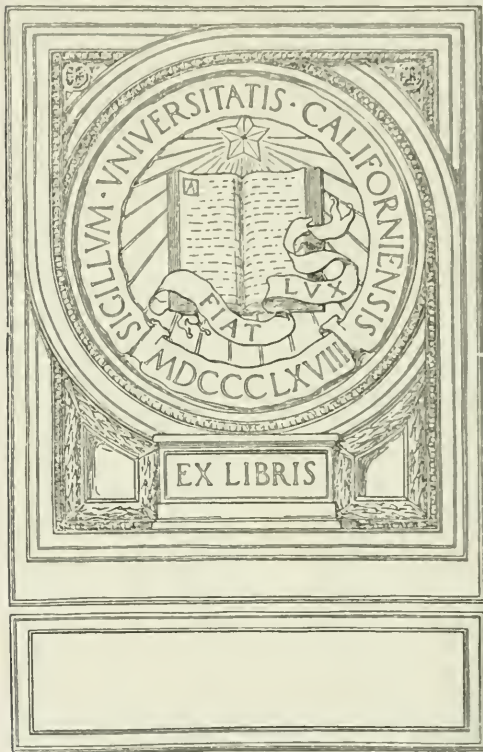
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# **NATIONAL PROGRESS IN WEALTH AND TRADE.**



**A. L. BOWLEY.**

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**LONDON : P. S. KING & SON,  
ORCHARD HOUSE, WESTMINSTER.**





NATIONAL PROGRESS  
SINCE 1882.



# ERRATUM.

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P. 64. In table, *delete* £ £ £ £ and *substitute* "percentages of average prices in 1898-1902."



# STATISTICAL STUDIES : :

## RELATING TO NATIONAL PROGRESS IN WEALTH AND TRADE SINCE 1882 :

A PLEA FOR FURTHER ENQUIRY.

BY

A. L. BOWLEY, M.A.,

Appointed Teacher of Statistics at the School of  
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LONDON:

P. S. KING & SON,  
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WESTMINSTER.

1904.



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## PREFACE.

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SOME apology is needed for adding to the great mass of ephemeral literature already existing on the Fiscal Question; but it seemed possible that a serious attempt to put in a concise and clear form the facts as to our recent industrial history which seem to be established on fair evidence, irrespective of their competence to support any particular views on fiscal policy, and a careful statement of the bounds of our positive knowledge of our social and industrial condition, might be of some use to those who feel the difficulties of statistics and cannot examine them at first hand. It may well be that some estimates are missing, which advocates on one side or another of the controversy would expect to find here; if so, it is either due to my accidental ignorance of their existence, or because they do not come within the scope of this pamphlet, or because they are rejected as not satisfying the tests proposed in the introduction. In the last case I would suggest that, if I have not been convinced by evidence offered, it is possible that others also have found it insufficient, and there is room for re-statement

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with further evidence on points open to dispute. If my work were to add to our knowledge in this way, it would fulfil one of its main objects.

Some part of the statistics used in the following pages has been gradually accumulated in the course of researches as to the history of wages, prices, and foreign trade covering the last ten years, and in a few cases the tables have merely been brought up to date from articles already published. Part has been specially tabulated from official returns for the present purpose. Much of the material was used by me in recent lectures at the London School of Economics, where it was treated from the purely historical point of view.

I recognise fully that the question before the nation is not one to be decided by statistics, and that their use is easily exaggerated; but it happens that very many of the arguments put forward have depended on interpretations of historical statistics, and some guide to their use may not be inopportune.

A. L. BOWLEY.

LONDON SCHOOL OF ECONOMICS,  
*February, 1904.*



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# INTRODUCTION.

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THE intention of this pamphlet is not controversial and emphatically not political. An attempt is here made to put together in a simple and intelligible form some of the main statistics which illustrate the economic history of the United Kingdom during the past twenty years, and (so far as it has any ulterior object) to establish the following statements :—(i.) *Our information is not sufficient to allow us to form an absolutely certain judgment as to our recent progress ;* but (ii.) *our information, so far as it goes, suggests that very remarkable and stable progress has been made in recent years in those aspects of national well-being which are generally considered in measuring prosperity.*

The first of these propositions compels us to suspend judgment ; the second throws the burden of proof on any who maintain that a remedy is needed to repair or prevent our decadence. These studies are not, then, intended to be used to support the theories of those who have made up their minds and are anxious to find additional evidence for their views, but rather to emphasise the need

of caution and careful enquiry. If they serve this purpose, they will of course be unacceptable to those who hold that enquiry is over, the existence of disease established, and the nature of the remedy determined.

There are certain obvious, but commonly neglected, rules of statistical investigation which it is desired to emphasise.

(a.) Statistics must cover the whole field of enquiry. Thus it is not enough to show that wages of one group of workers have increased; we must have information about all workers, and the precision of our result depends on the accuracy of the less exact part of our data. It is not enough to show that exports of particular kinds have decreased; we must extend our examination till all exports are included, if we are dealing with foreign trade, and to the output for the home as well as the foreign market, if we are considering the national productive power. If our statistics cannot be made complete, or at least if we cannot be sure that the part neglected is unimportant, we can establish no positive assertion; partial statistics are suitable only for party purposes.

(b.) All statistics used must be closely related to the quantity whose change we wish to examine. Our trade prosperity is not sufficiently tested by the traffic on our railways or by the clearing-house returns; the earnings of the shipping industry are not proportional to the tonnage under the British flag; the stress of poverty is not measured by

the returns of pauperism. Such estimates are only enough to indicate the probable course of change, and to throw the burden of proof on those who allege that the tests are insufficient.

(c.) When we are dealing with a quantity which fluctuates year by year, no judgment can be formed without examination of the records of a long series of years. Thus prices of wheat and of other commodities fluctuate violently, and it is only after a long period that it can be ascertained whether there is a permanent change of level. Most statistics relating to trade are subject to alternate expansion and contraction, and it is only by looking at the figures year by year for a long period that the rate of progress can be estimated. In these studies it has been necessary to avoid the confusion incidental to long lists of figures, but in all cases where it is possible the figures have been given for the last four quinquennial periods, while the figures for each of the years have been considered, and remarked on if important.

(d.) The purchasing power of gold is continually changing, and it is always necessary to examine statistics relating to the value of goods to tell whether an argument will be affected if we express the facts in quantities instead of in value. Thus statements as regards money wages are of little utility till we know how retail prices are changing. Apparent increases of exports or imports are often attributable to the

inflated price of particular commodities. The apparent relative growth of the trades of two nations often has quite a different aspect when we look at their quantities instead of their values.

(c.) Before the change in a total is used as significant, it must be considered whether the various groups which compose it are of the same nature, or whether a change in one part has masked a change in the opposite direction in the other. The degree of similarity requisite depends entirely on the problem considered. For some purposes, all exports are the same, and a change in the total value is significant; for other purposes, they must be subdivided according to the kind of goods or the countries of destination. The question should always be put: Is the total (or average) computed from items whose dissimilarity in any respect can affect the problem in hand?

In the following studies attention has been paid to these tests, and the importance of the figures is criticised in accordance with them. The result often is that it is found that no definite conclusion can be drawn. It is humiliating to have to admit that our positive knowledge is so limited, and it is natural to ask whether more cannot be done in the way of official enquiry or private investigation. There is doubtless a wide field for the latter, but the unofficial student is constantly handicapped by the absence of essential data which the Government only can collect. Some of the more pressing and practical investigations which might be made

officially, if the trouble were taken and the expenses defrayed, are suggested in the text. It must not be supposed that the author does not recognise the unremitting and careful labour involved in the publication of existing statistics, and the continuous efforts which are being made to enlarge their scope and increase their value. The fault, if fault there be, must be attributed to the general public, who have made no effective demand for more complete information, and to the successive Governments, who have not recognised our stupendous ignorance of matters of vital importance as an evil calling for remedy.

It has been thought best not to burden the text with references to authorities or by technicalities of method. The main sources of information are given at the beginning of each section. The statements made necessarily have an *ex cathedrâ* appearance; it can only be said that in every case the figures selected are the best known to the author, who is prepared to substantiate (or withdraw) any statement depending on the tables which is criticised on reasonable grounds. There has been no attempt to obtain pedantic accuracy; but great care has been taken that the statistics given are sufficiently exact for the arguments based upon them, and are so selected and grouped as to give a fair impression of the facts.





# NATIONAL PROGRESS

SINCE 1882.

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## CHAPTER I.

### THE PROGRESS OF THE NATION.

#### 1. *The Shifting of Occupation.*

[*Authority* :—The Reports of the Census of England and Wales, 1881, 1891, 1901.]

THE main changes in the relative numbers of men employed in different occupations in the last twenty years have been that fewer are employed in agricultural pursuits and more in building, railways, coal mines, and the great group of iron and steel industries. The numbers engaged in textile manufactures and clothing have increased, but not so rapidly as the population. The main changes may have been accomplished, so far as the broad figures show, without any necessity on the part of any man to change his occupation, but simply by changes in the supply of new-comers. If a proportion of the lads bred in the country had gone to the railways and coal mines and taken situations

as 'bus-drivers, grooms, or gardeners ; and if the lads in Yorkshire and Lancashire, whose fathers were in the woollen and cotton mills, had gone into the cycle or machine trades or shipbuilding, or become clerks in the cities, the numbers would have grouped themselves very much as the census shows. It seems very probable that such changes have taken place. The only case, numerically important, where there is an actual diminution of numbers is agriculture, and this would be sufficiently accounted for by the non-filling of the places of the old men as they dropped out of the ranks. As regards the manufacturing trades, the numbers of adult men in the textile and clothing trades have increased only about 5 per cent. in twenty years, while the adult male population has increased about 30 per cent. ; but this relative fall may be regarded as compensated by the growth of nearly 60 per cent. in the aggregate number engaged in iron and steel production, in the manufacture of machinery and tools, in shipbuilding, and in the construction of cycles and other vehicles : for the total of the numbers engaged in the clothing and the metal trades together has increased more rapidly than the population. It will presently be shown that the productive power of the relatively smaller number in the cotton and woollen manufactures has increased so fast that the output has at least kept pace with the growth of population.

At the same time the numbers employed in manufacturing and distributing food and drink,

in the transmission of letters, &c., and in personal services have increased relatively to the population; and the commercial class has grown more rapidly than the rest of the nation.

These broad results show no *à priori* cause for alarm as to the alleged loss of our manufacturing power and decadence of intrinsic merit of occupation: the handling of metals is as meritorious as the handling of textiles, the making of machines as the making of cloth. They rather indicate that fewer men are wanted to maintain the necessary output of textiles and boots and hosiery, and more are free to devote themselves to the extension and repair of the tools of industry and to great constructive works. The immense increases in the numbers engaged in building and on railways (which could have been provided by the decrease in agriculture) go to show that much capital has been available for investment, and that a greatly increased volume of goods (home or foreign) has been handled. Except for possible diminution in the numbers in numerically unimportant trades (concealed in these general figures), the only phenomenon which needs careful consideration is the well-known diminution of the agricultural population, which cannot be discussed here.

The following table shows the main divisions of occupation, so far as the heart-breaking difficulties of the census tabulation seem to allow them to be grouped. An attempt has been made to include *all* the manufacturing occupations, isolating those

of exceptional interest where possible. Youths, aged 15 to 20 years, have been separated throughout, as their numbers show the trend of the changes in occupation, and a comparison of them with the numbers of men (over 20 years) employed enables us to form an idea whether changes are due to an alteration of the supply of young men, or to an alteration in the occupation of adults. In those cases where, comparing 1901 with 1881, we find the numbers have either actually fallen, or increased at a rate perceptibly less than the population as a whole, the figures for 1901 are given in italics; where the numbers have grown perceptibly faster than the population, the figures for 1901 are printed in heavy type. A study of the table will confirm the remarks made above.

#### NOTES ON THE VARIOUS GROUPS.

1. Agriculture includes drovers, gamekeepers, and gardeners.

2. This heading includes coachmen, drivers, grooms, and 'bus and tram men.

3 and 4. Except for a small group in 1881, the numbers refer only to those at home or in port. They have to be supplemented by special estimates.

5. Here are included all engaged in docks from the harbour-master to the casual labourer (it is not possible to separate them in all the census years), warehousemen, and coalheavers. The great increase appears to be among dock labourers.

6. These general labourers have to be distributed

## THE SHIFTING OF OCCUPATION OF MEN AND YOUTHS IN ENGLAND AND WALES.

Occupations.	Numbers employed. (ooo's omitted.)					
	1881.		1891.		1901.	
	Age 15—20.	Age over 20.	Age 15—20.	Age over 20.	Age 15—20.	Age over 20.
1. Agriculture and gardens ...	202	1,033	193	986	168	960
2. In charge of horses ...	34	223	46	298	65	414
3. Fishermen ... ..	5	24	3	22	2	22
4. Sailors and watermen ...	15	120	17	122	12	115
5. In docks and warehouses, and coalheavers ... ..	8	78	9	102	10	135
6. General labourers, unde- fined ... ..	72	472	76	505	46	359
7. Builders ... ..	90	584	75	612	129	802
8. Furniture and woodwork ...	19	133	23	146	36	192
9. Road labourers ... ..	1	14	1	20	2	48
10. On railways, including navvies ... ..	21	174	28	228	47	343
11. In coal mines ... ..	65	291	95	389	102	512
12. In other mines ... ..	14	103	13	92	14	119
13. Enginemcn ... ..	5	61	8	73	10	98
14. Artizans, &c., undefined ...	13	37	22	63	9	35
15. Textiles ... ..	75	274	75	291	67	294
16. Tailors ... ..	12	94	17	100	17	118
17. Boots ... ..	22	161	29	164	26	165
18. Hoslery and hats ... ..	4	30	5	29	4	24
19. Miscellaneous metal manu- factures ... ..	19	100	24	115	26	139
20. Tools and instruments ...	6	40	10	51	18	82
21. Vehicles ... ..	9	53	13	65	20	85
22. Shipbuilding ... ..	6	47	9	60	13	72
23. Iron manufacture and machines ... ..	73	394	92	441	102	615
24. Manufacture of tin, &c. ...	9	33	10	41	10	38
25. Paper and printing ... ..	25	84	29	118	33	146
26. Chemicals ... ..	1	14	2	17	2	21
27. Earthenware ... ..	5	21	7	25	6	30
28. Glass ... ..	4	15	5	16	6	20
29. Other manufactures ... ..	21	156	25	145	34	187
30. Food and drink ... ..	64	339	87	411	95	482
31. Domestic and hotel service	24	70	28	105	32	131
32. Waterworks and lighting	1	20	1	33	2	51
33. Police ... ..	0	33	0	40	0	45
34. Post and messages... ..	7	20	12	29	16	47
35. Commercial ... ..	52	250	69	318	88	432
36. Professional ... ..		229		265		312
Number included in occupa- tions, 1—36 ... ..	1,003	5,804	1,158	6,537	1,269	7,688
Total number of males in England and Wales ... ..	1,268	6,643	1,465	7,516	1,608	8,856
* 19—24. Working in metals	122	667	158	773	189	1,031

among several occupations; the apparent fall is due to improved classification, to which part of the increase in groups 5, 7, and 10 may be due.

7. There has been a great increase among the skilled men (carpenters, bricklayers, &c.), so that the change in class 6 does not destroy the conclusion that the building trade has grown rapidly.

10. It is unfortunately not possible to separate the managing directors from the navvies for all the years; but the fact that the number of drivers, stokers and guards has increased 140 per cent. in the twenty years, indicates that the increase is not only or mainly among the unskilled workers.

13. This includes those in charge of engines not marine, railway or agricultural, and the great increase is very significant of the tendency of employment.

14. As with class 6, the artisans, machinists and factory hands in this class properly belong to other groups; the apparent fall is not enough to vitiate the remarks made below on classes 15 to 23.

15. There is difficulty in separating this group into cotton, wool, &c., owing to the great use of mixed materials; but the manufactures are treated separately on the following pages.

17. The manufacture of boots has become more largely a woman's industry.

19. Includes such manufactures as wire, nails, &c., and workers in mixed metals, as in Birmingham and Sheffield industries.

23. Owing to imperfect classification and changes, it is not possible to separate the widely different industries of pig-iron and steel manufactures from the vast and increasing machinery trade. It is very important to notice the rapid increase. Examination of the separate county returns shows that there has been a very considerable growth of the metal trades, as distinguished from the production of metals. According to the "Fiscal Blue-Book," p. 364, the increase of adult males (1881-1901) in the iron and steel manufactures was only 12,000.

24. Here we are obliged to group together the manufacturers of tinplate, and the workers in the product.

29. This group includes workers in colours, explosives, salt, soap, grease, hair, bricks, cement, and some other trades which do not call for special remark.

30. It is not possible to separate those who prepare food from those who distribute it. This group includes some factory hands and a great number of shopkeepers, &c.

31. Includes college, club, hospital, and laundry service, but does not include gardeners or coachmen.

35. The numbers of commercial clerks are 46, 60, 77 thousands in the successive periods.

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There is urgent need for the expenditure of more money on the census of occupations.



Industry changes so rapidly with the progress of invention that the classification is out of date by the time the final report appears. In order to make the classification of 1901 more in accordance with modern needs, such alterations have been introduced that a comparison with the previous censuses is rendered impossible in very many cases, and difficult in nearly all. We are still (January, 1904) waiting for the Final Report, which will help us to interpret the figures.

Two things could be done, if the Treasury would find the money: (i.) The census authorities might re-tabulate important parts of the 1901 returns on the basis of the 1891 tabulation, and issue a separate report showing in detail, what the table just given shows in the rough, where significant changes have occurred, and bringing the figures for Scotland and Ireland into close relation with those for England. [At present the reports are as separate as if the United Kingdom had never been united.] It is obviously the business of the Government to provide this information in a form in which it can be used; the work is beyond the power of an individual, and much of the necessary information and qualifications are only known to the Department. (ii.) Another occupation census should be taken not later than 1906, and tabulated on exactly the same basis as that for 1901. At the same time alterations necessitated by the progress of industry should be considered, and a second tabulation of the data ready for comparison



with the census of 1911 should be given. It is only by a double tabulation, one strictly on the lines of the previous census, the other on the most improved lines possible, that we can make comparisons and at the same time keep up with changes.

As it is, the information we have is not enough to make us sure even of the broad changes in occupation, and it is quite impossible to follow the changes in detail.

The classification used has not till 1901 separated manufacturers of goods from the distributors of them, nor till 1891 were the employers separated from the employed; even now we cannot separate such radically different classes as managers, clerks, foremen, skilled workers, and general labourers, each from the next. The result is that we have no means of finding from the census how the various strata of society are changing: whether the numbers in responsible positions have increased; how large is the class of casual labour; whether the "upper" or the "middle" classes are growing or not. Such an analysis could only be made if the whole system of census enumeration were changed, and a much more expensive one adopted. Here the intention is mainly to point out that we have not yet got the basis for such analysis, and even if we made a complete enquiry at once, several years must elapse before we could tell how the structure of society was changing.

## 2. *The Progress of Wages.*

[*Authorities* :—The publications of the Labour Department since 1893, and of the Board of Trade before 1893; the “Fiscal Blue-Book,” Mem. XIX.; “Wages in the United Kingdom” (Camb. Univ. Press, 1900), and articles in the “Statistical Journal” 1895—1902, by the present author.]

This section is limited to the wages of adult males. Even with this limitation it is necessary to say that we know very little about the wages of large groups of workers, and every statement must be read with the proviso “in that group of wage-earners concerning which we have knowledge.” However, there has been no selection of data to serve any particular view, inadequacy has been the only reason for rejection of evidence; and, when we consider the known tendency to equalization of wages for work requiring equal skill, illustrated by the great difficulty of getting labourers where the conditions of work and pay are not good, it seems highly probable that the whole body of wages of men *attached to any regular occupation* moves in the same direction, at the same times, but not necessarily at precisely the same rate, as the wages here considered. In every case we consider the average weekly wage (reckoning all perquisites and payments in kind in their money values), assuming the full ordinary week’s work. Questions of regularity of work are considered below, pp. 20 *seq.*

Wages have risen during the last twenty years from two causes, of which the latter has been

ignored in recent discussions: first, the weekly rates for nearly all occupations have risen; secondly, there has been a very considerable flow from low-paid to better-paid trades. If there had been no change of employment, our records would show an increase of about 15 per cent. in average rates of wages when 1902 is compared with 1882 [in this case there is nothing invidious in the choice of these two years]; but when the transference of labour is allowed for, the increase is 30 per cent. This result is mainly but not entirely due to the diminution of the number of agricultural labourers. In 1886 the average weekly wage of English agricultural labourers, *when all their special earnings and allowances through the year were included*, was about 14s. 6d.; that for the great bulk of other trades was 24s. The purchasing power of money in the country cannot be considered to be much (if at all) greater than in the town; and the greater rent in towns cannot, however reckoned, be held to neutralize more than a fraction (say one-third, or less) of the difference. The other main factor in the above result is the great increase in the number of coal-miners, whose wages have increased very rapidly in the last fifteen years. In addition to these main causes, there has been on the whole a very natural and considerable flow of labour to those industries where wages were rising with special rapidity.

Enumerating in succession those occupations

concerning which we have reliable information, and in every case comparing 1902 with 1882, we find that wages in the *building* trades have increased about 15 per cent. (the less skilled occupations having their full share), in the *engineering* trades about 10 per cent., in *iron and steel* manufactures (excluding labourers) over 30 per cent., in *printing* about 7 per cent. for time rates, for *sailors* about 20 per cent., for *agricultural labourers* 10 per cent., for *coal-miners* (hewers) about 30 per cent., in *cotton* about 10 per cent., whilst in *wool* there seems no sufficient evidence of any significant change. In the cases named, the increases have been made step by step with very few important checks, except in the case of coal-mining, where wages have always fluctuated very rapidly, and it is never possible to say what part of an increase will be retained.

WAGES OF COAL-MINERS (HEWERS) EXPRESSED  
AS PERCENTAGES OF THE AVERAGE IN 1898-1902.

1878	...	70	} 72	1883	...	78	} 72	1888	...	73	} 88
1879	...	70		1884	...	74		1889	...	85	
1880	...	70		1885	...	72		1890	...	96	
1881	...	71		1886	...	69		1891	...	97	
1882	...	77		1887	...	69		1892	...	89	

1893	...	90	} 84	1898	...	89	} 100
1894	...	86		1899	...	95	
1895	...	81		1900	...	112	
1896	...	81		1901	...	106	
1897	...	82		1902	...	98	

In 1903 the percentage would be about 94.

The rise in the last twenty years appears from the above figures to be of a permanent nature.

## THE INCREASE OF WAGES.

	Average Weekly Wages (Men).								Numbers to which the Rates of Wages may be Estimated to Apply.* (0,000's omitted.)		
	1881.		1886.		1891.		1902.		1881.	1891.	1901.
	s.	d.	s.	d.	s.	d.	s.	d.			
Agriculture ...	15	0	—		15	0	16	6	103	99	96
Building ...	27	0	27	0	28	0	31	0	58	61	80
Cotton... ..	24	9	25	3	26	0	27	3	15	16	17
Wool ... ..	24	3	23	3	23	3	23	3	8	8	8
Machinery ...	25	6	25	9	26	9	28	6	23	28	44
Shipbuilding	—		29	3	33	6	36	6	5	6	7
Coal ... ..	23	0	23	0	30	0	33	6	29	39	51
Sailors ... ..	25	0	25	0	31	0	30	0	12	12	11
Printers † ...	31	0	—		32	0	33	0	4	5	7

\* The numbers are for England and Wales. The wages would apply for the most part to Scotland also.

† Mean of recognized Trade Union time-rates.

The wage-statistics for 1886 are from the Board of Trade returns, and include all classes of labour; the figures for other years are obtained from the 1886 basis by estimating the rates of increase.

The average weekly rates of wages in the above groups together are, when we make allowance for the change of numbers employed, **1881, 21s. 6d.; 1891, 23s. 6d.; 1901, 27s. 6d.**, an increase of 29 per

cent. ; but if the proportion of people in 1881 had remained unchanged throughout the period, the figures would be 1881, 21s. 6d. ; 1891, 23s. ; 1901, 25s., an increase of 16 per cent. only. This conclusion is supported by such wage-statistics as we have for other industries. It is to be remarked that, owing to well-known properties of statistics of this nature, the results have a greater accuracy than the separate figures, and more reliance may be placed on the average percentage changes just given than would be expected by those who have no experience in handling wage-statistics.

The Board of Trade might very well be asked to frame such an estimate as that just given with the information already at their disposal ; but if we are to have any authoritative and complete statement of the increase of wages, it is necessary, at whatever trouble, to organize another wage census like that undertaken in 1886, and so to arrange the details that not only will it be as complete as possible, but also strictly comparable with the 1886 figures. This undertaking should be correlated with a census of occupations suggested above, p. 8. We cannot know what has been the change in condition of the working classes as a whole without such an investigation, nor measure the economic progress of the nation.

The main gap in the information on which the conclusions given above are based is due to the paucity and difficulty of the statistics as to wages

of railway employees. If nothing else is done, an investigation might be made as to these wages to compare with the existing statistics for 1886 and 1891.

Another fault of the estimate just given is that it has not been possible to make any allowance for the shifting from one grade to another within the main groups of occupations taken. In the engineering trades there must have been a very considerable movement from one grade of skill to another, and this is not shown when we deal only with percentage changes in wages for particular occupations. It is impossible to say without a new wage census whether the resultant movement has been towards higher skill and better pay or not. This is a case where partial estimates are worse than useless.

Lastly, there is a large army of workmen who are not permanently attached to any regular occupation, but who shift from trade to trade in pursuit of the momentary demand, or who get work occasionally in some trade which they have never made their own. We have practically no information about the present number of such men, nor do we know in the least whether they are increasing or not. It may be presumed that their wages rise and fall with the wages of regular employees, but no estimate can be offered of the extent to which the figures given would be affected by their inclusion. We return to this on pp. 25 and 33, below.



### 3. *Change in National Income.*

[*Authorities* :—as before ; and Returns of Inland Revenue Commissioners.]

If we compare the period 1898—1902 with 1883—1887, it appears that the total income of the nation has increased not less than 38 per cent., the population about 15 per cent., the average income per head not less than 20 per cent. National income may be divided into four groups : (i.) the part received as wages, which on the basis of the figures given above appears to have increased 50 per cent. in total, or 30 per cent. per wage-earner ; (ii.) the part under the review of the Inland Revenue Department, which has increased from 35 to 40 per cent., or 20 per cent. relatively to the population ; (iii.) the large sum of money which is earned as salaries, too small to be considered by the Income-tax collectors ; (iv.) profits from investments abroad and businesses at home, which in part escape the tax-gatherer, though legally liable. It is generally held that (iii.) and (iv.) together amount to not less than £200,000,000 annually, or some 10 per cent. of the national income. In the broad statement given above, it is assumed that these sums have not increased at all in the twenty years, and, when all allowances are made, it is very probable that from this cause the growth of income is under-estimated.

It was estimated some years ago that the income in 1891 was £1,600,000,000, and no



serious criticisms have been made, which vitiate the methods by which this total was obtained. Since that date the population has increased some 10 per cent., average wages some 10 to 15 per cent., and the amount of income observed by the Inland Revenue some 35 per cent. Putting these estimates together, it seems very probable that the national income in 1903 fell very little short of £2,000,000,000. For 1882 the income was estimated at £1,400,000,000.

In calculations of this sort, there must always be considerable uncertainty about the *total*, though it is possible to state a *minimum* figure; but when the *changes* in the various constituents are studied, there is less difficulty in estimating the *rate of increase* of the total. For this reason these rates of increase are given the more prominent place here.

In whatever direction we look, with the exception of Schedule B (the occupation of land), we find a striking increase of income. Taking the first and last years of the table given in the most recent return of the Commissioners, we find that the income under Schedule A (Ownership of Lands, Houses, &c.) was 18 per cent. more in 1901 than in 1892; under Schedule C (British and Foreign Government Securities), 15 per cent.; under Schedules D and E together (Trade and Professional Profits and Salaries of Officials), 35 per cent., though salaries between £150 and £160 per annum are included in the earlier but not in the later returns.

The following table shows in more detail the assessed profits in those groups for which the figures are easily obtained in four periods :

AVERAGE ASSESSMENT OF CERTAIN GROUPS OF INCOME.

	1882—86.	1887—91.	1892—96.	1897—1901.
Ownership of lands ...	66	60	56	53
Ownership of houses ...	126	137	152	174
Occupation of lands ...	22	20	19	18
British Government Securities ...	19	18	15	13
Railways ...	33	34	37	39
Mines and quarries ...	8.0	8.5	13.0	13.0
Ironworks ...	—	—	2	4
Government officials and servants ...	16	17	18	21
Income from abroad, so far as identified ...	37	52	55	60
<i>Total assessment</i> ...	<i>600*</i>	<i>640*</i>	<i>690</i>	<i>830</i>

\* The official figures are not strictly comparable ; these are estimates on the basis of the recent figures.

The changes of income shown by the assessments always lag behind the true changes of income. In the great group of trade-profits (some  $\frac{2}{3}$  of the whole assessment), the profits are the average of the three preceding years, two years behind date : in the case of mines the average of the five preceding years, three or four years behind date. We have, therefore, no exact information as to the changes in income since the beginning of 1901. The

statistics of trade dealt with below (pp. 35 *seq.*) make it improbable that there can be any serious shrinkage yet.

Some of the gaps in our knowledge as to income can never be repaired. No amount of trouble will show how much income escapes income-tax or whether this amount is increasing or not. If the tax-gatherers are extending their net to include more and more, some part of the increase shown above is fictitious. On this point the Commissioners no doubt have information.

We could only find the amount of income which is not included as wages and is below the income-tax limit by a census *ad hoc*; and this would be inquisitorial and unlikely to be accurate: but the Commissioners could by a very careful study of the claims for exemption and of the effect of the alterations of the change of limit give very valuable estimates relating to this question. If a serious investigation were made, and the tax-collectors instructed to assess all incomes (not paid as wages) whether subject to tax or not, we should have the basis for an estimate.

There is no obvious reason why the Commissioners of the Inland Revenue should not be requested to prepare an estimate of the change of national income during recent years; basing it partly on the great mass of material which they have published, but which the outside public cannot interpret with such certainty and fulness of meaning as those who are behind the scenes;

and partly on bold estimates which in their hands would be far better than the guesses which others are obliged to make, supplementing these by special enquiries in those directions which seem likely to give results. As it is, we are completely in the dark as regards some of the most essential data for estimating the income of the nation.

#### 4. *Unemployment and Pauperism.*

[*Authorities* :—The publications of the Labour Department and of the Local Government Board ; Mr. G. H. Wood in the "Statistical Journal," December, 1899.]

Employment was bad in the years 1884 to 1887, good in 1889 to 1891, bad in 1892 to 1894, good for the whole of the long period 1896 to 1901, and not so good in 1902 and 1903. It is not possible to say that want of employment has become or is becoming less frequent or not, for it increases and decreases in irregular periods of eight to ten years; but it is very noticeable that the expected reaction from the good years of the late 'nineties has been postponed and does not yet appear to be acute; for since 1883 there are eight years which have a higher return of unemployment than that of 1903. Though the statistics cannot be used to demonstrate permanent improvement, they certainly show that the circumstances of trade in the six years ending with 1901 were not unfavourable to regularity of work. These conclusions are drawn not only from the totalized

figures, but also from those for separate groups of trades. They depend entirely on the returns made by Trade Unions (together with less direct figures for coal mines, iron-works, and docks), and so far,

UNITED KINGDOM.

		PERCENTAGE OF MEMBERS OF TRADE UNIONS OUT OF WORK.			Average Number of Days* Worked per Week. Coal.	Average Number of Shifts † Worked per Week. Iron and Steel Work.	Average Number Employed per Day at the London Docks.
		All.	Metal and Ships.	Carpen- ters.			
1883	...	2'2	—	—	—	—	—
1884	...	7'4	—	—	—	—	—
1885	...	9'0	—	—	—	—	—
1886	...	9'5	—	—	—	—	—
1887	...	7'7	9'4	5'9	—	—	—
1888	...	4'7	6'0	5'5	—	—	—
1889	...	2'1	2'3	3'3	—	—	—
1890	...	2'1	2'2	2'2	—	—	—
1891	...	3'5	4'1	2'5	—	—	—
1892	...	6'3	7'7	3'0	—	—	—
1893	...	7'5	11'4	3'8	—	—	—
1894	...	6'9	11'2	4'1	—	—	—
1895	...	5'8	8'2	3'8	4'7	—	—
1896	...	3'4	4'2	1'8	4'9	—	14,321
1897	...	3'5	4'8	1'6	5'1	—	15,384
1898	...	3'0	4'0	1'3	5'2	5'5	14,750
1899	...	2'4	2'4	1'5	5'5	5'6	14,905
1900	...	2'9	2'6	2'5	5'5	5'4	15,530
1901	...	3'8	3'8	3'7	5'1	5'3	16,454
1902	...	4'4	5'5	4'2	5'2	5'3	14,716
1903	...	5'1	—	—	—	—	—
<i>Averages.</i>							
1883—87		7'2	—	—	—	—	—
1888—92		3'7	4'5	3'3	—	—	—
1893—97		5'4	8'0	3'0	—	—	—
1898—1902		3'3	3'7	2'6	—	—	—

\* That is, average number of days on which coal was hewn at the collieries.

† That is, average number of shifts worked per man employed.

apply only to members of Trade Unions. It is hardly possible, however, that the causes which affect the demand for labour should act so differently in the case of trade unionists (who are for the most part artisans) and of others, that the broad statements just made would be seriously vitiated by a wider survey; for the work of the various grades and classes of labour is interwoven, and if one great group is idle, the whole body is affected. There may, however, be a changing amount of casual labour sufficiently distinct to obey different impulses.

The figures of pauperism cannot be used for the support of any propositions needing accuracy for two reasons: (i.) The number of paupers relieved depends very much on the particular system of relief adopted, which has frequently altered, and has no very close and necessary relation with the amount of poverty. (ii.) We cannot distinguish sufficiently between the able-bodied, who are capable of work, and cannot or will not get it, and the so-called "able-bodied," who are incapacitated by temporary accident or illness, and could not do work under any circumstances at the time they are receiving relief; this latter body forms by far the greater proportion.

The statistics we have are sufficiently serious to make an investigation as to these two conditions very expedient. The number of so-called adult able-bodied male paupers has increased nearly as fast as the population in the last fifteen or twenty

years, and faster if we include vagrants. The last five years show, however, a marked improvement over 1894—1898. On the other hand the number of female paupers shows a rapid and very satisfactory decrease. The following table shows these facts in more detail.

ENGLAND AND WALES.

Years.	ABLE-BODIED MALE PAUPERS AND VAGRANTS.							ABLE-BODIED WOMEN.	
	Indoor.	Per 10,000.*	Outdoor.	Per 10,000.*	Together.	Per 10,000.*	Excluding Vagrants.	Per 10,000.*	Indoor and Outdoor. Per 10,000.†
1884—1888	16,920	20	17,650	21	34,570	41	29,340	35	42
1889—1893	20,940	22	15,090	18	36,030	40	29,550	33	36
1894—1898	33,140	34	15,550	16	48,690	50	36,940	38	35
1899—1903	33,310	32	12,010	11	45,320	43	32,820	31	29

\* Per 10,000 males over 15 years of age in England and Wales.

† Per 10,000 females over 15 years of age in England and Wales.

An enquiry that should at once be set on foot is to find the numbers at different ages in receipt of relief, to compare with the return made in 1892; then it was found that, of 1,570,000 persons in receipt of relief, 400,000 were over 65 years old (160,000 men, 240,000 women), 550,000 under 16, and 620,000 between 16 and 65 (280,000 men, 340,000 women). This shows that 1 in 30 males in England and Wales of working age was in receipt of relief at some time or other in the twelve months ended March 25th, 1892; in this estimate vagrants and lunatics are not included.

Of the men classified as able-bodied, only a small proportion were in a condition to work at the time they received relief, as the following figures show:—

ADULT MALES IN RECEIPT OF RELIEF IN JANUARY.	Average for the years	
	1893—1897.	1898—1902.
<b>OUTDOOR.</b>		
On account of sickness, accident, or infirmity ... ..	9,330	8,060
Sudden necessity ... ..	4,510	3,460
Want of work, or other causes ...	2,130	530
<hr/>		
	Average for the years	
	1893—1896.	1897—1900.
<b>INDOOR.</b>		
Temporarily disabled ... ..	11,400	12,340
In health ... ..	9,760	8,570

Statistics for other years do not seem to be available.

In 1900, the last year for which we have returns on the above classification, only 11 or 12 really able-bodied men received relief (7 or 8 indoor, 3 or 4 outdoor) per 10,000 of the male population over 15 years old.

It would be a good thing to have a comparative return discussing the real meaning of this classification and covering as long a period as possible.

There can be no doubt that there is an appalling amount of poverty in the great towns amongst the large class who have no regular means of livelihood,



which would only be shown in part by its effect on the statistics of unemployment. Mr. Booth's and Mr. Rowntree's enquiries have given some measurement of this evil, and it can hardly be over-rated. All, however, that it is relevant to the present purpose to state, is, that we have no *comparative* statement whatever. London may or may not be better than ten years ago, when Mr. Booth was investigating its condition; London and York may have been far worse in 1880 for all we know. We cannot then use these investigations to establish any proposition as to the *progress* the nation is making.

### 5. *Change of Prices.*

[*Main Authority* :—Report on Wholesale and Retail Prices, Board of Trade, 1903.]

If we make up a budget of the goods most usually purchased by the working-classes, and compare the prices at which they were bought year by year for the last twenty years, we find that such a budget, costing £1 in the period 1898—1902, would have cost 19s. 6d. in 1893—1895, 20s. 6d. in 1888—1892, and 21s. 6d. in 1883—1887. In other words, during the last twenty years the purchasing power of money has increased about 8 per cent., or (what is the same thing) prices have fallen about 8 per cent. Thus, whilst the apparent increase of wages was about 30 per cent. in that period, the real increase, when we allow for

the fall in price, is found to be about 40 per cent.\*

In the above estimates are included the prices of bread (fall 10 per cent.), meat (fall 10 to 20 per cent.), sugar (fall 30 per cent.), tea (fall 20 per cent.), oil (fall 20 per cent.), coal (rise 20 to 30 per cent.), beer and tobacco (unchanged), and some clothing materials: in all over forty articles.

There are omitted, on the one hand, the innumerable small and rapidly-cheapening articles of modern manufacture (*e.g.*, cheap household requisites), and furniture, bicycles, travelling, newspapers, and other miscellaneous goods, which account for a considerable part of the normal expenses of those households where the income is above the bare minimum: in this group the fall of price must have been considerable. On the other hand is omitted rent (including rates), which is generally supposed to have risen in towns.

So far as the artizan is concerned it may be reasonably supposed that the rise of rent is counterbalanced by the fall of price in the omitted group just described; *e.g.*, that 10s. a week in his hands will pay the rent of as good a house as was occupied twenty years ago, and that the residue of the 10s., though reduced, will go as far in the purchase of the miscellaneous group described, as the larger residue which the smaller rent would have left out of the same sum twenty

<sup>1</sup> Combined increases of 8 per cent. and 30 per cent. make 40 per cent.

years before. In the case of the poor in the large towns, however, who spend less on the miscellaneous group of quasi-luxuries, rent is probably an increasing burden.

Taking all these things into consideration, it may be reasonably admitted, that the value of £1 in the hands of a working man has at any rate *not fallen* in the last twenty years; whilst the evidence on the whole is in favour of the rise of nearly 10 per cent.

The methods of calculation for this estimate are so difficult and technical, that it is not advisable to enter here into details. It may be remarked, however, that practically identical results have been obtained by several methods, on different hypotheses, and by statisticians working quite independently, and on different material.

#### 6. *Consumption of Necessaries and Common Luxuries.*

[*Authorities*:—The Statistical Abstracts; Mr. G. H. Wood in "Statistical Journal," December, 1899.]

We have sufficient records or estimates of the consumption in the United Kingdom of the following articles:—Wheat and wheat flour, meat, sugar, tea, coffee, cocoa, rice, raisins and currants, tobacco, beer, spirits, and wine. Averaging all these together, it is found that their consumption

per head in the United Kingdom has increased 20 per cent. when 1898—1902 is compared with 1883—1887. The following table gives more detail:—

ANNUAL CONSUMPTION OF CERTAIN COMMODITIES PER HEAD IN THE UNITED KINGDOM.

	Quinquennial Averages.			
	1883 —87.	1888 —92.	1893 —97.	1898— 1902.
Tea, lbs. ... ..	4·9	5·2	5·6	6·0
Coffee, lbs. ... ..	·9	·8	·7	·7
Cocoa, lbs. ... ..	·4	·5	·6	·9
Meat, lbs. ... ..	110	119	123	133
Sugar, lbs. ... ..	72	76	83	86
Beer, gallons ... ..	27½	29½	30	31½
Tobacco, oz. ... ..	23	24	27	30
General average, including also wheat, rice, raisins and cur- rants, spirits and wine, taking the first period as 100 ... ..	100	108	112	120

The consumption of wheat and flour per head has changed very little in the period, fluctuating between five and a half and six bushels per head per annum.

These figures suggest that enough bread is obtained by the great bulk of the population, as the fall in price has not produced an increased consumption; that it has been possible for the mass of the working classes to obtain a greater

supply of meat ; and that there has been a greater surplus to spend in beer and tobacco.

It is not possible to tell whether the increase has been at all uniformly distributed amongst the various strata of the nation. Those who could hardly afford meat in 1883 may, so far as these figures show, still be in the same position ; but if so the great body of the working class must be consuming much more. It is hardly possible that the great increase in the consumption of meat and sugar can be attributed to the numerically unimportant richer classes.

The actual quantities of common commodities used by various groups of people can only be found by detailed investigations, such as Mr. Booth's, and as yet we have no comparative figures.

### 7. *Savings.*

[*Authorities* :—The Statistical Abstract ; the Annual Reports of the Labour Department.]

It is impossible to ear-mark the savings of particular classes and distinguish them from savings in general, and it is impossible to estimate at all closely the total savings of the nation ; but we know definitely of the existence of large funds of money belonging wholly or in a great part to the working classes, and we find a very great and continuous increase in recent years. The following table speaks for itself :—

Years.	100 PRINCIPAL TRADE UNIONS. Balance at end of year. ( $\infty$ ,000 omitted.)	WORKMEN'S CO-OPERATIVE SOCIETIES. Share and Loan Capital. ( $\infty$ ,000 omitted.)	13 PRINCIPAL FRIENDLY SOCIETIES. Accumulated Funds. ( $\infty$ ,000 omitted.)	POST OFFICE SAVINGS BANK. Due to Depositors. ( $\infty$ ,000 omitted.)	TRUSTEES' SAVINGS BANKS. Due to Depositors. ( $\infty$ ,000 omitted.)	INCORPORATED BUILDING SOCIETIES. Assets. ( $\infty$ ,000 omitted.)
1883	£ —	£ 8,4	£ —	£ 41,8	£ 45,0	£ 51,1
1884	—	9,0	—	44,8	45,8	51,6
1885	—	10,0	—	47,7	46,4	52,7
1886	—	10,6	11,5	50,9	46,8	52,9
1887	—	11,3	12,1	54,0	47,3	53,8
1888	—	11,9	12,7	58,6	46,4	53,2
1889	—	12,7	13,4	63,0	45,1	—
1890	—	13,9	13,9	67,6	43,6	52,3
1891	—	15,3	14,3	71,6	42,9	51,5
1892	1,6	16,6	14,9	75,9	42,4	—
1893	1,4	17,2	15,5	80,6	42,2	44,4
1894	1,6	18,0	16,2	89,3	43,5	43,0
1895	1,7	19,7	16,8	97,9	45,3	42,4
1896	2,2	21,1	17,6	108,1	46,7	45,0
1897	2,3	22,9	18,5	115,9	48,5	44,7
1898	2,7	24,2	19,2	123,1	50,0	45,0
1899	3,3	26,4	19,8	130,1	51,4	45,8
1900	3,8	29,0	21,0	135,5	51,5	46,8
1901	4,2	31,0	21,9	140,4	52,0	47,8
1902	—	—	—	144,6	52,5	—

The Trade Unions and Friendly Societies given in this table are selected simply because they are the most important and their returns are comparable. The selected 100 contain three-fifths of the membership of all registered Trade Unions; and the Friendly Societies selected own about two-thirds of the funds of Societies of their kind.

The various capitals included in the figures given above are not entirely distinct, for the funds of one society may be invested in another, and so be reckoned twice over. Also it is generally supposed that savings have been attracted into the Post Office Savings Bank in recent years from other securities where the interest has fallen. Perhaps the diminution of the assets of Building Societies may be merged in this increase. When all these allowances are made, the extraordinary and uninterrupted growth of these mainly working-class investments is still very remarkable.

### 8. *Summary.*

We have seen that, *for those groups concerning which we have information*, average wages have risen 30 per cent. since 1881, that the average income of the population has risen 20 per cent., that prices have fallen 8 per cent., and that meanwhile the regularity of employment has on the whole improved. The view thus suggested that there is more money and money's worth at the disposal of the people in general has also received

strong confirmation from the facts, that the consumption of the most important necessities of life has increased 20 per cent. per head, and that at the same time working class savings have increased very rapidly, whilst the number of adult paupers has decreased relatively to the population. The following table shows the estimates together:—

	1883— 87.	1888— 92.	1893— 97.	1898— 1902.
Average money <i>wages</i> ; 1883—87 taken as 100 ... ..	100	110	115	130
Average <i>prices</i> ; ditto ... ..	100	95	90	92
Average money <i>income</i> per head of the population; ditto ... ..	100	113	108	120
<i>Consumption</i> of commodities; ditto	100	108	112	120
Percentage <i>out of work</i> ... ..	7·2	3·8	5·4	3·5
Number of adult male <i>paupers</i> per 1,000 adult males* ... ..	35	33	38	31
Number of adult female <i>paupers</i> per 1,000 adult females* ... ..	42	36	35	29

\* England and Wales only.

N.B.—THIS TABLE SHOULD ONLY BE QUOTED WITH THE QUALIFICATIONS GIVEN IN THE CONTEXT.

It is submitted that these estimates are consistent with and tend to confirm each other. All of them show considerable progress when the second period is compared with the first, slackening or retrogression between the second and third periods, and great progress (except that prices rose a little) from the third to the most recent period.

The present writer has made a careful estimate



of the progress of real wages\* (that is, wages expressed not in money, but in goods that can be purchased by them) in the United Kingdom throughout the century, which may be thus expressed :—

*Average Real Wages as Percentages of the level of 1900.*

Years.	Circa	1830	'40	'50	'60	'70	'75	'80	'85	'90	'95	1900
Real Wages		45	50	50	55	60	70	70	72	84	93	100

If this table is studied, it will be found that the rate of increase in the last twenty years has been greater than in any previous period of equal length; and that the progress in the last decade has only been equalled in that immediately preceding.

Against this presentation of the statistics must be put the fact that our knowledge is sadly limited. We do not know whether the large class who never have regular work has increased or not; we know very little about the wages of the very large groups of men who are included in the unorganized trades or in agriculture, nor how many men in the organized trades fail to obtain the standard rates of wages. Even for some important men's industries, *e.g.*, the railways and the boot and shoe manufacture, we have no comparative figures, whilst the change in women's wages (except in the textile manufactures and some others) is a matter of guess-work.

\* The great part of this estimate was prepared in 1900 or earlier, and has been singularly confirmed by figures recently published.

It is therefore conceivable that the facts that we do not know may present an appearance opposite to that of the facts that we do know, as it is conceivable that the hidden hemisphere of the moon differs from that which we see; but it is *primâ facie* improbable, the same main causes are presumably acting in the unknown as in the known. At the most our ignorance establishes a case for enquiry: the burden of proof that the unknown is different from the known is thrown on those who propose to base their actions on this assumption.

## CHAPTER II.

### PRODUCTION, TRADE, AND COMMERCE.

[*Authorities* :—The Statistical Abstracts; the “Fiscal Blue Book.”]

#### 1. *Consumption of Raw Materials in Manufacture.*

WHEN we compare the years 1898—1902 with 1883—1887, we find that we have used in manufacture 15 per cent. more cotton, 40 per cent. more wool, 18 per cent. more iron, 60 per cent. more lead, 80 per cent. more zinc, 85 per cent. more leather, 60 per cent. more imported wood and timber, 28 per cent. more coal, the same amount of tin, but 25 per cent. less silk, in the latter period than in the former; meanwhile the population has grown 14 per cent.

To obtain these figures the home production and foreign importations of the raw materials have been added together, the exportation subtracted, and the remainder taken as used at home. There is some doubt about the exact amount of tin, lead, and zinc retained, and we have no figures for home-grown timber nor sufficient figures for flax nor jute, whilst those for copper need expert interpretation.

This list includes the great bulk of the more important raw materials, and shows a very remarkable progress.

It is interesting to compare the consumption of cotton and wool with the occupation returns. The numbers of children employed have fallen rapidly, under the new education requirements; the number of young persons is diminishing, slowly in cotton, rapidly in wool, and in both cases the lads more than the girls; unless there is a reaction, the number of men in the woollen trades will soon fall rapidly. At present the number of adults is stationary in wool, and increasing less rapidly than the population in cotton, while the proportion of men and women remains unchanged.

The amount of raw material handled per operative has thus increased greatly, especially in the case of wool; and this fact must be kept in mind when we are considering that the numbers of the textile workers are diminishing relatively to the population. A study of the age distribution shows that the diminishing number of young persons attracted accounts for the lessened total, and there is no evidence that adults have had to leave the industries; whilst the increased consumption of the raw material, which has kept pace with the population in cotton, and much more than kept pace in wool, shows that these manufactures are by no means decadent.

The following table supports these statements:—

COTTON.

	Average for the Quinquennial Periods.			
	1883— 87.	1888— 92.	1893— 97.	1898— 1902.
Raw material consumed, million cwts.	13·0	14·1	14·3	15·0
Men (over 20 years) ... thousands	154	160	166	171
Women    "        ...       "	198	201	204	210
Total adults        ...       "	352	361	370	381
Youths (15—20 years) ...       "	50	51	48	43
Girls        "        ...       "	90	97	96	95
Total young persons       "	140	148	144	138
Total over 15 years    ...       "	492	509	514	519
Children under 15 years       "	75	90	80	65

WOOL AND WORSTED.

	Average for the Quinquennial Periods.			
	1883— 87.	1888— 92.	1893— 97.	1898— 1902.
Raw material consumed, million lbs.	385	464	510	533
Men (over 20 years) ... thousands	81	83	84	84
Women    "        ...       "	76	78	78	78
Total adults        ...       "	157	161	162	162
Youths (15—20 years) ...       "	21	21	19	16
Girls        "        ...       "	37	39	37	35
Total young persons       "	58	60	56	51
Total over 15 years    ...       "	215	221	218	213
Children under 15 years       "	33	36	32	25

NOTE.—There is some uncertainty as to the division of those under 20 into young persons and children, but not enough to affect the general view.

The increased use of metals marches with the figures already given of the numbers employed in the metal trades:—

### CONSUMPTION OF METALS.

	Average for the Quinquennial Periods.			
	1883—87.	1888—92.	1893—97.	1898—1902.
Unmanufactured iron consumed: thousand tons ...	6,500	6,700	7,000	7,700
Unmanufactured tin consumed: thousand tons ...	29	32	37	29
Unmanufactured lead consumed: thousand tons ...	125	146	161	200
Unmanufactured zinc consumed: thousand tons ...	43	58	62	75
Men and lads engaged in metal manufactures, including machines and shipbuilding: thousands	830	910	1,030	1,170

The fall in the use of tin should be noticed. There has been a recovery in the most recent years, as follows:—

Years ...	1893	'94	'95	'96	'97	'98	'99	1900	'01	'02
Tons of TIN consumed: thousands	36	41	42	37	27	20	26	32	34	34

The estimates here given are very rough. If the increase in the iron used is 20 per cent., and that of the persons employed 40 per cent., as appears, it would mean that more work is done on each ton of metal, and that employment is increasing in the more advanced metal trades (such as machines and ships) rather than in the earlier forms (refining,

casting, rolling, &c.); this is conjectural, but is borne out by the figures of exports and imports.

CONSUMPTION OF SILK, LEATHER, AND WOOD,  
of Foreign or Colonial Origin.

	Quinquennial Averages, expressed as Percentages of the Most Recent Period.			
	1883—87.	1888—92.	1893—97.	1898—1902.
Silk ... ..	132	126	95	100
Leather ... ..	54	68	87	100
Wood and Timber ...	63	74	85	100

There seems little doubt that our silk manufacture has rapidly diminished; the numbers employed show the same fall. The great increase in leather should remove anxiety as to competition in the boot trade, where the total numbers employed have increased 10 per cent. in the last twenty years. The increase in wood and timber was to be expected from the occupation figures in the building and furniture trades already given, which show an increase of 40 per cent. since 1881.

Lastly, we have the following figures for

COAL USED IN THE UNITED KINGDOM.

	Quinquennial Averages.			
	1883—87.	1888—92.	1893—97.	1898—1902.
Coal: million tons ...	137	150	155	176

As the previous figures would lead us to expect, this essential of all manufacturing industries has been in greatly increasing demand.

The general consilience of the statistics of occupation and those of consumption allows us to use both with some confidence.

*2. Production for the Home Market, and for the Foreign Market.*

There are unfortunately very few cases where we have any direct information as to total production ; and the indirect evidence given by the use of raw materials does not enable us to distinguish the output for the home from that for the foreign market. The following table gives the accessible information as to such production.

Of so-called raw materials, the output of coal and pig-iron has increased considerably, that of other metals fallen fast. Among agricultural produce wheat has fallen ; and other cereals, hay and roots have fluctuated year by year without any permanent change of level. The quantity of fish landed on our shores has increased steadily. The tonnage of ships built for the home mercantile navy or for foreigners was 23 per cent. more in the years 1893—1902 than in the previous decade.

The conveyance of goods to their destination or to the sea is an essential part of their production, and therefore the weight handled by railways is given in the table.



HOME PRODUCTION.

	Quinquennial Averages.				—
	1883— 87.	1888— 92.	1893— 97.	1898— 1902.	
Coal : retained for home use ... ..	137	150	155	176	million tons.
Coal : exported ... ..	23	29	33	43	" "
Produced from British ores :					
Copper ... ..	22	9	5	5	hundred "
Lead ... ..	398	337	292	222	" "
Tin ... ..	94	93	66	44	" "
Zinc ... ..	96	92	76	88	" "
Wool: estimated home clip ... ..	130	135	135	135	million lbs.
Pig-iron*: retained for home use ... ..	6·5	6·7	7·0	7·6	million tons.
Pig-iron*: exported...	1·2	1·0	1·0	1·1	" "
Sea fish for home and exports ... ..	—	12	14	16	million cwts.
Grown in the United Kingdom :					
Wheat ... ..	80†	72	53	62	million bshls
Barley ... ..	77†	77	74	72	" "
Oats ... ..	160†	165	172	170	" "
Hay ... ..	12·6†	14·0	12·5	13·8	million tons.
Potatoes ... ..	6·5†	5·7	5·7	6·9	" "
Turnips, &c. ... ..	34†	38	36	35	" "
Ships built for British owners§ ... ..	453	634	518	752	thousand tons' burden.
Ships built for foreigners ... ..	72	137	138	188	thousand tons' burden.
Weight of goods and minerals conveyed by railways ... ..	265	241	340	414	million tons.

\* Produced from British or foreign ores.

† Average for 1884—87.

‡ Average for 1885—87.

§ Excluding ships built for the Royal Navy.

It is obvious that no general conclusions can be drawn from such incomplete statistics. Practically the only industries of which we know the output are mining, agriculture, and shipbuilding.

The only means, then, that we have at present of judging of our productive power is by the consumption of raw materials, already discussed. We cannot judge of it at all by the statistics of exports, for in the great majority of manufactures the production for the foreign market is numerically much less important than that for the home market.

### *3. Main Changes in the Character of Exports.*

This section does not deal with the causes of the changes observed, nor with the destinations of the goods, but only with the actual quantities and values of the commodities exported.

Two things must always be remembered when the value of exports of commodities is considered: that a great quantity of raw material imported from abroad is used in their production, and a change of price of this raw material will affect the value of the exports irrespective of all other considerations; and, that the purchasing power of money is continually changing, £100 in 1898—1902 representing the same quantity of goods in general as £91 in 1893—1897, £102 in 1888—1892, and £106 in 1883—1887 (see pp. 62 *seq.*).

VALUE OF EXPORTS OF BRITISH AND IRISH  
PRODUCE.

	Quinquennial Averages (000,000's omitted).				(000,000's omitted.)
	1883—87.	1888—92.	1893—97.	1898—1902*.	1903.
	£ 10 214	£ 16 227	£ 16 211	£ 28 236	£ 27 260
Coal ... ..					
Other commodities					
Total... ..	224	243	227	264	287

\* Excluding the value of ships, which averaged about £7,400,000 in 1899—1903 ; no record was kept in earlier years.

This table and the figures on which it is based distinctly suggest that the gross value of exported commodities, other than coal, has changed but little during the last twenty years. If we pay attention to the changing purchasing power of money, an increase of 10 per cent. is apparent when we compare the decade 1893—1902 with 1883—1892. If we include coal, the increase is greater by 5 per cent. Population increased about 10 per cent. between the middle years of the decades. The amount exported per head has hardly changed.

It is not possible to base general arguments on periods shorter than a decade, because of the fluctuating character of the statistics and especially of prices. If we allow for the changes of price, the value of exports (including coal) in 1893—1897

is 1 per cent. greater than for the previous five years!

Much has recently been said and written about the falling off of the exports of various manufactured commodities, but less notice has been taken of the concurrent increase in the exports of others, which must necessarily have taken place, as the total has not fallen. We must take into account *all* commodities.

The following statements are based upon a tabulated record for 1883—1902 of all exported commodities of any importance:—

Manufactures, &c., the exports of which have

A. *Increased perceptibly in value in twenty years*:—Railway wagons, telegraph apparatus, implements and tools, machinery, instruments and apparatus, wire, galvanized sheets, steel products, unmanufactured iron; wearing apparel, jute yarn, woollen yarn, cotton thread; painters' materials, stationery, books; chemical products (including dyestuffs and manures); herrings; spirits; oil and floor cloth; caoutchouc products, and soap.

B. *Remained nearly stationary in value*:—Unmanufactured metals, pig-iron, arms and ammunition; cotton piece-goods, linen yarn; hats; leather, wrought and unwrought; paper; skin and furs; beer and ale; pickles and jam.

C. *Decreased perceptibly in value*:—Cutlery and hardware, tinned plates, ungalvanized sheets, bar, angle, bolt and rod iron; woollen piece-goods, linen manufactures, jute manufactures, cotton

yarn, haberdashery; alkali; glass; refined sugar, and oil-seed.

The test adopted has been in general a comparison of the decades 1883—1892 and 1893—1902, and a change of 10 per cent. has been considered as significant.

There should be added to group A, cycles, motor-cars, electric light apparatus, and toys and games, which had not been registered in the trade returns in the earlier years.

It is clearly quite impossible to base on these facts any general statement that our exports tend to be the product of low-paid and unskilled labour, or the reverse. Our exports have consisted and do consist of a great miscellany of goods of every description. The guarantee of their continuance is their variety. As the exports of one industry gradually fall off, another takes its place. There are very few, perhaps none of importance except tinned plates, which have diminished rapidly; and, where there has been a fall, we cannot judge of the injury (or benefit) till we know the production for the home market.

We will not, then, attempt any generalization, but examine separately the exports of cotton, woollen, and metal goods, which between them accounted for 57 per cent. of the whole in 1903.

### COTTON.

From this table we see that the value of exports of cotton manufactures has remained nearly

stationary in recent times, whilst the value of yarn exported has diminished. Meanwhile the price of raw cotton has fallen considerably, and if we make a very rough correction by subtracting four-fifths of the total value,\* we find that the residual value of yarn and finished manufactures together has

COTTON. *Summary Statistics.*

VALUE.	Quinquennial Averages. (000,000's omitted.)				(000,000's omitted.)
	1883— 87.	1888— 92.	1893— 97.	1898— 1902.	1903.
Exports of Finished Manu- factures ...	£ 58	£ 60	£ 56	£ 61	£ 66
„ Yarn ...	12	12	9	8	7
Together ...	70	72	65	69	73
Subtract $\frac{4}{5}$ of Raw Material, viz. ...	29	30	28	24	30
Residue ...	41	42	37	45	43
QUANTITY.					
Exports of Piece-Goods, yds. ...	4,620	4,970	5,000	5,160	5,160
„ Yarn, lbs. ...	255	250	240	190	150
Raw Cotton consumed in United Kingdom, cwts.	13	14	14	15	13

\* Mr. Macara recently estimated that 80 per cent. of the output of the cotton manufacture was for the foreign or colonial market.

remained stationary. An increasingly large proportion of the raw material, however, is to be debited against the finished manufactures, and it appears that the correction for the latter will leave the averages for the two decades very nearly equal.

At the same time the registered length of piece-goods has increased some 5 per cent., so that there has been a fall in the average price obtained, and this fall is rather more than is apparent, as the exports of the better class piece-goods have increased more rapidly than others.

It appears from this summary study that our export trade in cotton has grown little in twenty years, but that the last five years show a marked increase.

Meanwhile the amount of raw cotton used has increased more rapidly than the quantities of exports, so that some compensation is being found in the home market.

#### WOOL AND WORSTED.

The value of finished manufactures shows a fall of 15 to 20 per cent. when we compare decade with decade, half of which may be accounted for by the lower price of raw wool. At the same time the intrinsic value of a yard of cloth seems from various evidence to have grown, the heavier and more valuable stuffs taking the place of the lighter; and the breadth and fineness of finish seems to have increased. The summary figures of exported piece-goods are quite misleading: none of the factors which go to form the value of

cloth of an unchanged kind have increased, and it is inconceivable that its price should have risen, as these uncorrected figures suggest. The fall in the quantity of woollen cloth exported is sufficiently serious, but it can hardly be more than the 20 per cent. suggested by the value figures, and consideration of prices and values suggests that (when improved quality is allowed for) it is not improbably about 10 per cent.

Meanwhile the consumption of raw wool has increased some 25 per cent. The only explanation of this is that the production for the home market has greatly increased, in spite of the considerable importation of foreign cloth.

WOOL AND WORSTED. *Summary Statistics.*

VALUE.	Quinquennial Averages: (000,000's omitted.)				(000,000's omitted.)
	1883— 87.	1888— 92.	1893— 97.	1898— 1902.	1903.
Exports of Finished Manu- factures ...	£ 19'5	£ 19'6	£ 16'9	£ 14'7	£ 15'9
„ Yarn* ...	5'2	5'2	6'6	6'0	6'0
QUANTITY.					
Exports of Piece-goods, yds.	249	220	188	147	157
„ Yarn* ... lbs.	52'1	56'3	72'4	73	78'8
Raw Wool consumed in United Kingdom ... lbs.	379	457	503	525	—

\* Including alpaca and mohair.



It is very difficult to interpret these textile statistics exactly; but we cannot avoid the broad conclusion that the cotton and woollen manufactures are increasing their output for the home market, and that the output for the foreign market has changed little in the case of cotton, and fallen considerably in the case of wool.

Linen shows similar symptoms; jute has fallen off.

# IRON AND STEEL AND THEIR PRODUCTS.

## Summary Figures.

VALUE OF EXPORTS OF	Quinquennial Averages. (ooo,ooo's omitted.)				ooo,ooo's omitted.
	1883— 87.	1888— 92.	1893— 97.	1898— 1902.	1903.
Hardware and cutlery ...	£ 3·1	£ 2·7	£ 2·0	£ 2·1	} 24·7
Implements, tools, and machinery ...	12·6	15·9	15·7	18·9	
Miscellaneous iron and steel products ...	15·4	16·8	13·1	16·9	} 30·4
Tinned plates ...	4·7	6·1	3·9	3·6	
Pig and puddled iron ...	2·8	2·6	2·3	3·9	
Ingots, bars, and sheets of steel ...	1·4	1·7	2·2	3·0	
Total ...	40·0	45·8	39·2	48·4	55·1
Average for decades ...	42·9		43·8		
Unmanufactured iron consumed in United Kingdom, million tons	6·5	6·7	7·0	7·7	

The details of the iron and steel trades are too complicated for any but experts to deal with. Only two observations will be made here. The increased value of the exports of machinery of all kinds is very satisfactory, and agrees with the occupation statistics already given. The total consumption of iron in manufacture in the United Kingdom has grown without check, though little faster than the population, showing that the output for the home market has increased rapidly.

The values given for exports include the cost of conveying them to the ports, and placing them on board ship. After that, considerable sums of money are still to be credited to the United Kingdom for their transport in British ships to their destinations. Another large sum is due for the earnings of British ships which carry goods from one foreign or colonial port to another. Including these sums, we may tabulate our exports, visible and "invisible," as on the following page.

Neither the change in the purchasing power of money nor the cheapening of raw material will affect greatly the general conclusion that exports have increased at about the same rate as the population. The significance of these figures is discussed below, pp. 61 and 74.

EXPORTS: VISIBLE AND INVISIBLE.

*Excluding re-exports of Foreign Produce.*

	Quinquennial Averages. (000,000's omitted.)			
	1883—87.	1888—92.	1893—97.	1898—1902.
	£	£	£	£
Textile products ... ..	107	109	98	100
Iron and steel products ...	40	46	39	48
Coal ... ..	10	16	16	28
Other merchandise ... ..	67	72	74	90
Shipping earnings* ... ..	65	70	80	90
	289	313	307	356
Decennial average ... ..	£300		£330	
Per head of the population...	£8·2		£8·2	
Per head of the population without shipping earnings	£6·3		£6·1	

\* This is based on Sir Robert Giffen's estimates, the "Fiscal Blue Book," and other calculations. These estimates give rise to much controversy.

#### 4. Imports and Foreign Competition in the Home Market.

##### IMPORTS.

It is quite impossible to separate imports satisfactorily into categories of food, raw material, and manufactured goods, or to divide goods which compete with home products from others. Nearly

all articles go through some manufacturing process before they reach our ports; and there are very few which do not need some further process before they are ready for use, whilst practically all products need the services of our docks and railways, and the work of distribution employs a large commercial class.

Many commodities, such as wrought metals, textile yarns, leather and timber, are the finished product of one industry at the same time that they are the raw material of another. Even food cannot be always separated from raw materials for manufacture or from manufactured articles.

While exact classification is impossible, there are yet many commodities which we can label with sufficient accuracy, "raw material" or "finished products." If we separate these we have a large intermediate group, which for some purposes should be classed as raw, for others as finished. The following table attempts such a classification. In every case goods which have passed through our merchants' hands, but have been exported without undergoing any manufacturing process ("re-exports") have been subtracted, so far as they could be identified. The total foreign and colonial produce thus re-exported has, for the last twenty years, been about 20 per cent. of total exports.

SUMMARY OF IMPORTS.

(*Re-exports subtracted throughout.*)

VALUES.	Quinquennial Averages. (ooo,ooo's omitted.)				(ooo,ooo's omitted.)
	1883— 87.	1888— 92.	1893— 97.	1898— 1902.	1903.
A. Food competing with Home Products ...	£ 92	£ 104	£ 110	£ 136	£ 154
B (i.). Food, tropical ...	45	47	46	52	50
B (ii.). Wine and Tobacco	9	10	10	11	10
<i>Total, A. and B. ...</i>	146	161	166	199	214
C. Raw Materials ...	89	99	91	111	114
D. Partly Manufactured	7	9	8	11	12
E. Unclassed ...	15	16	17	23	25
F. Finished Goods ...	26	30	37	43	43
<i>Total, A. to F. ...</i>	283	315	319	387	408
G. Miscellaneous ...	37	39	47	54	65
Total Imports, less re- exports ... ..	320	354	366	441	473

A. Grain and flour ; preserved, fresh and salted meat ; animals for meat ; fish ; butter, cheese, lard, milk, potatoes, and some fruit.

B (i.). Maize ; tea, coffee, cocoa ; rice, sago, &c. ; sugar ; spices ; fruit.

B (ii.). Tobacco, wine and spirits.

C. Cotton, wool, jute, silk, flax ; caoutchouc and guttapercha ; timber and wood ; copper and iron ore and pyrites ; hides, *leather*, skins and furs.

D. *Textile yarns ; unwrought iron and steel, pig and sheet lead, bars and ingots of tin, crude zinc.*

E. *Oils, seeds, oil seed cake, tallow, gum, and paper.*

F. *Textile manufactures ; iron and steel, wrought or manufactured ; glass, chemical products, coal-tar dye ; gloves.*

G. All other goods.

Commodities italicized are included in the Board of Trade tabulation as "articles wholly or mainly manufactured ;" the remainder of C, D, and E as "raw materials and articles mainly unmanufactured." In the Board of Trade summary returns re-exports are not subtracted ; this affects the figures for raw cotton and wool, tea, tin and woollen manufactures and several other commodities considerably.

Group A consists of those goods which come into direct competition with British agricultural produce ; there has been a great and continuous increase in practically every item. Group B (i.) and (ii.) consists of goods which could not be profitably produced in their original state at home, though some commodities (especially sugar) undergo manufacturing processes before arrival. Coffee, spices and rice have decreased ; the total value of sugar imports has fallen from £25,000,000 in 1883 to £16,000,000 in 1893, though the quantity has increased from 23,000,000 to 28,000,000 lbs. ; wine has changed little ; tea increased greatly in quantity, but fallen off in total value ; tobacco has increased rapidly.

Groups A and B together show a very rapid growth in value, while (as the prices have fallen) the increase in quantity has been enormous, perhaps 50 per cent., between 1883 and 1903.

Group C, raw materials, has been dealt with, pp. 35 *seq.*, above. *Food and raw materials* (including tobacco and leather), viz., Groups A, B, C, account for about 70 *per cent.* of the total value of imports; this proportion has changed little in the last twenty years, falling perhaps from '75 to '70 of the whole.

In Group D (partly manufactured goods), the only important changes are the increase in unwrought iron and steel, which is now valued at from £2,500,000 to £3,000,000, and in lead. Textile yarns have fluctuated, but have not increased.

In group E (sundries), 'paper has steadily and rapidly increased.

In Group F (finished manufactures), the important items are :—

Quinquennial Averages. (000,000's omitted.)					(000,000's omitted.)
Imports of	1883— 87.	1888— 92.	1893— 97.	1898— 1902.	1903.
Cotton goods ... ..	£1·8	2·1	2·7	4·3	5·1
Woollen goods .. ..	6·8	8·5	9·5	9·1	8·1
Silk goods... ..	10·0	10·4	14·0	13·9	12·4
Iron and steel, wrought or manufactured ...	1·9	2·5	3·3	7·1	8·2

It is to be noticed that wool and silk have passed their maxima, while cotton and iron have

increased steadily. If we compare these figures with the exports of similar commodities (pp. 46, 48), it will be seen that our imports of woollen manufactures have grown to more than half of our exports, but that the most recent years show some reaction. In the case of cotton the imports are only one-thirteenth of the exports, and the year 1903 shows a maximum excess of exports. With regard to iron and steel, the figures for export and import do not relate to the same products; but it may be noticed that the main increase of imports is since 1895, so that it is instructive to compare the figures for 1895 and 1903:—

UNWROUGHT AND WROUGHT IRON AND STEEL  
AND THEIR PRODUCTS.

*(Including Machinery and Implements, but not Ore.)*

			1895. (000,000's omitted.)	1898—1902 (Average.) (000,000's omitted.)	1903. (000,000's omitted.)
			£	£	£
Imports	...	...	4	11	17
Exports	...	...	37	47	55

These figures are very rough and the classification has changed, but they show the broad developments.

Group G (miscellaneous) includes those goods which were not clearly classified in the earlier returns, or which are not numerically important; it is not possible to distribute them among the groups A to F, but certainly less than half belong to group F.



## FOREIGN COMPETITION IN THE HOME MARKET.

There are no means of measuring the stress of competition, and statistics for the most part only add confusion to the problem. We have to balance the gain to the consumer, including the gain to the manufacturer who uses foreign goods in manufacturing processes, against the loss to those producers (capitalists or employees) who have to turn from one occupation to another or change the direction of their energies because of foreign competition. The amount of the loss depends mainly on the rapidity of the change. If, as seems to have been the case with wool and cotton, the foreign goods have only supplied part of the increase of demand, there is no positive loss. If goods are suddenly offered by the foreigner at a very low price, the loss may be considerable. The more usual case is between these two. Foreign goods gradually supplant some commodity as fashion or facility of production changes; new capital and young workpeople cease to go into that particular branch of trade, as prices are cut, and find employment in some other allied industry producing for the constantly growing home market or for export. The statistics of occupation and of consumption of raw materials strongly support this view; but summary figures may easily conceal individual cases of difficulty and hardship.

The apparent loss to a particular trade threatened by competition is obvious, but often hypothetical. The real gain to the consumer is less noticed, but

more certain. The gain to other trades, which are necessarily stimulated by the demand for means of payment of increased imports, is as certain as any purely deductive proposition in political economy can be, but its action is so indirect that it generally escapes observation. Germany imports wool from Australia, Australia imports machinery from England, England imports chemicals from Germany ; an increase in the last might easily cause an increase in the second, but the loss (if any) to the English chemical manufacturer would not be obviously connected with a gain to the machine producers.

It should be clear from these considerations that the value of imported manufactures bears no necessary relation whatever to the gain or loss of any person or community. We have at present no statistics which show the whole case for any commodity, and can form no complete judgment on any case of alleged "dumping" or any other form of competition. To balance the gain and loss to all concerned of abnormally cheap imports of steel, we should need to know its influence on wages and profits in all branches of the industries in which steel is used, and the effect on the prices to the consumer of all products containing steel ; it is obvious that at present we are not in possession of enough facts.

It is not sufficiently realized that goods described by the same name in the Board of Trade returns are not necessarily competitive. Each nation specializes on some particular product in the

woollen manufactures ; the woollen goods we get from France are not of the same kind as those produced in Yorkshire ; we should not export woollen yarn to Belgium and Germany, and also import it from them, if there was not a difference in kind. The products of different countries are supplementary rather than competing to a much greater extent than appears.

Statistics, though they are a very unreliable guide to the extent of competition, nevertheless may indicate whether it is increasing or not ; and they make it possible to state that competing imports are less than an assigned sum, though not how much less. The table which follows affords some evidence of increased severity of competition. Some of the items included compete with our unfinished products, but are helpful in finished manufactures ; thus imports of pig and sheet iron and steel increase, but exports of machinery (which contains them) increase at the same time. The items in the table are arranged roughly in order from nearly raw materials to finished products, and all commodities (important in this connection) are included. The work done on these imported commodities that might conceivably have been done at home can hardly be valued at more than £60,000,000 in 1903, and much of this would have been done here at a disadvantage and at increased cost. This sum is perhaps 4 per cent. of our total annual national expenditure on goods of all kinds, and it is in no way surprising that the

VALUES OF IMPORTS (LESS RE-EXPORTS) OF GOODS  
PARTLY OR WHOLLY MANUFACTURED IN 1883  
AND 1903, AND EXPORTS OF GOODS DESCRIBED  
BY THE SAME NAMES.

	IMPORTS. 000,000's.		EXPORTS. 000,000's.		REMARKS ON IMPORTS.
	1883.	1903.	1883.	1903.	
Refined sugar.	£ 4	£ 10	£ 1'2	£ '6	Mainly raw ma- terial.
Leather.	4½	7	1½	1½	Mainly raw ma- terial.
Lead, tin and copper (other than ore).	6	13	4½	4½	Mainly raw ma- terial.
Wood, manufac- tured.	0	2	½	1½	Worked abroad to save carriage.
Textile yarns.	3	4	19	14	Foreign and Eng- lish differ in character.
Iron and steel, their products and machinery.	4	17	45	55*	A very great part of the imports is raw material for other industries.
Silk manufac- tures.	10	12	2½	1½	Mainly deter- mined by fa- shion.
Other textile manufactures.	8	14	90	96	Much not compe- titive, and influ- enced by fa- shion.
Apparel.	0	3½	3½	7½	Influenced by fa- shion.
Paper.	1	4½	1	2	—
Chemicals, drugs, dyes and colours	2	8	4	12	Raw material for other industries.
Leather manufac- tures.	2	2½	2½	3½	Except for gloves, a very small part of the whole consumption.
Motor cars and cycles.	0	2	0	1½	—

N.B.—These columns should not be added, for the commodities are not equally competitive.

\* Not including ships.

international division of labour, which has been so long in progress, should have diverted this very small proportion of labour into manufacturing channels which, though not necessarily injurious to us, are not obviously to our advantage.

### 5. *The Balance of Imports and Exports.*

Imports of bullion and merchandize must be paid for by present, past, or future services. Present services include exports of commodities and bullion, and the services of British ships and commission agents ; past services include loans to the colonies and foreign countries made in the form of unpaid commodities, and earnings of ships ; future services would include the payment of interest due from, or debts incurred by, Great Britain. For striking the balance, we only know the value of exports and imports of goods and bullion ; the remainder, viz., the earnings of shipping and the transfer of capital, can only be conjectured. The shipping statistics show a very great probability that the earnings of ships have increased rapidly, and account for a great part of the difference. The remainder is due to one or both of the following : (a) excess of investments sent abroad over loans repaid or investments made by foreigners here, (b) earnings of British subjects abroad remitted home ; while in the other scale is excess of interest remitted to England from abroad over interest paid out by us. There are a few other items, probably negligible.

The amount to be accounted for by the shipping and by the capital and interest account was :—

Quinquennial Averages. (000,000's omitted.)			
1883—87.	1888—92.	1893—97.	1898—1902.
£ 95	£ 114	£ 144	£ 178

The excess of imports at any particular time is mainly determined by the then flow of capital and interest: when we are investing abroad it diminishes, when we are calling in our capital it increases. Except by the indirect evidence afforded by these figures, we have no means of estimating how much capital is passing. We only know of sums lent or repaid on particular occasions, and can only identify particular parts of the interest.

Under these circumstances it seems futile to attempt to judge of our manufacturing success by the amount of exports or imports. The root question as regards foreign trade is rather whether we are exchanging our exports at an advantage against imports, and the following section is devoted to an examination of this.

### 6. *Relative Changes of Prices of Imports and Exports.\**

Prices of commodities in general in the United Kingdom fell from 1873 to 1896, rose till 1900, and

\* The substance of this section with more detailed figures is given in the "Economic Journal," Dec., 1903, pp. 628—632.

fell again to 1902. Goods in general, which were worth £100 in 1902, would have cost £90 in 1896, £105 in 1890, and £120 in 1883. These figures (Mr. Sauerbeck's) are based on an average of all the important wholesale commodities for which prices can be definitely fixed; but the prices of separate commodities have fallen to various extents. If we average all our exports together we find that their price has not fallen so rapidly as prices in general; while the price of the goods we import has fallen more rapidly.

Taking quinquennial averages we find that :—

	At the Prices of		
	1893—97.	1888—92.	1883—87.
A budget of GOODS IN GENERAL, which cost £100 in 1898—1902, would have cost ... ..	£ 91	£ 103	£ 106
EXPORTS, which sold for £100 in 1898—1902, would have sold for ... ..	95	101	102
IMPORTS, which cost £100 in 1898—1902, would have cost ... ..	97	111	116

Exports, then, fetch practically the same price now as they did fifteen or twenty years ago; but we get our imports in return one-seventh cheaper. Or to put the same thing another way, a ton of coal, a hundred yards of textile cloth, and a ton of wrought steel, can be exchanged for 15 per cent. more wheat and raw materials than they could twenty years ago.

Considering groups of goods in more detail and comparing the quinquennial periods we find:—

PRICES OF GOODS IN 1898—1902 COMPARED WITH  
PREVIOUS PERIODS.

	Quinquennial Averages. (000,000's omitted.)			
	1898—1902.	1893—97.	1887—92.	1883—87.
	£ 100	£ 98	£ 110	£ 112
Imported Food and Tobacco ... ..				
Imported Raw Metals ... ..	100	79	93	87
Exported Metal Products ... ..	100	84	95	82
Imported Raw Textiles ... ..	100	96	111	120
Exported Textile Products ... ..	100	98	106	114
Exported Coal ... ..	100	76	86	72
Miscellaneous Imports ... ..	100	94	103	114
Miscellaneous Exports ... ..	100	97	108	114

Thus our imported food as well as increasing in quantity has fallen considerably in price, while the coal we export has risen. Raw metals have risen, but our metal products have risen more. Raw textiles have fallen, but our exported products have



fallen less, unless the corrections (see p. 47) for the change in kind neutralize this difference. Miscellaneous goods, both exports and imports, have cheapened.

Though these figures are too rough to support delicate arguments, they all suggest that equal quantities of our exports are getting larger quantities of imports in return than twenty years ago. Equal effort on our part is repaid by more and more foreign products. It is submitted that this is a true criterion of success in trade, and that this fact explains in part why the total value of our exports grows so slowly.

If we measure the quantities (by the method of index numbers) instead of the value of exports, and do the same for imports, we find that both have increased almost without interruption.

VALUES WHICH EXPORTS AND IMPORTS WOULD HAVE HAD IF THE PRICE LEVELS OF 1883-87 HAD BEEN MAINTAINED.

			Quinquennial Averages (000,000's omitted.)			
			1883-87.	1888-92.	1893-97.	1898-1902.
			£	£	£	£
Exports	...	...	222	243	246	270
Imports	...	...	317	377	443	519

The apparent fluctuations in the value of our trade are due to price-changes; the actual volume

even of exports has grown considerably, that of imports enormously. Value and quantity of exports are noticeably great in the last five years, when competition is supposed to have been more acute than at any earlier periods.

*7. Trade with the Empire and with Foreign Countries.*

It is not possible to deal adequately with the distribution of our exports and the sources of our imports in our present limits; we can only summarize a few of the more important facts and difficulties.

The actual destinations of our exports are often not known, as we have in general only a statement as to the port at which they will be landed, and there are very many cases where this is not their ultimate destination; for similar reasons we do not always know what country produced our imports. There are also many goods which are landed in England and shipped elsewhere without change, others which undergo some slight manufacturing process before exportation, and others which are worked up from raw materials to finished manufactures and then exported. It is not possible to distinguish all these in our accounts from goods imported for consumption, and this consideration vitiates all the classifications which relate to the importance of various countries as supplying, supplementing or supplanting our capital and labour.

Again, the nominal country of destination of exports is very frequently not the country which pays for them. Australia and India, for example, pay for some of the goods we send them, by exporting wool and tea to the continent of Europe, whence we draw goods to liquidate the triangular account. This is one of the simplest examples of the great complexity of international trade accounts. For these reasons it is exceedingly difficult to draw correct conclusions from any changes in the channels of our external trade.

The balance sheet of certain groups of countries and the Empire may be set out as on the following page.

Thus the Empire exports as much to Germany, Holland and Belgium (which cannot be separated from one another in the accounts) as it takes from them; whilst there is a large balance in favour of France and Italy to be paid by services of shipping, unless it is due to us in the form of interest. There is probably a much larger balance in favour of the United States of America. Canada sends us more than we return directly; but the reverse is the case with India and Australia.

## VALUE OF IMPORTS AT PORT OF ARRIVAL.

*Rough average for 1890—1900. (000,000's omitted.)*

	From Germany, Holland, and Belgium.	From France and Italy.	From U.S.A.	From the Colonies.*	From the United Kingdom.
To					
The United King- dom ... ..	£ 76	£ 54	£ 113	£ 88	£ —
The Colonies and India* ... ..	4	10	20	3	82
Together ...	80	64	133	91	82
	To Germany, Holland and Belgium.	To France and Italy.	To U.S.A.†	To the Colonies.*	To the United Kingdom.
From					
The United King- dom† ... ..	£ 61	£ 27	£ —	£ 82	£ —
The Colonies and India* ... ..	21	10	—	3	88
	82	37	—	85	88

\* Canada, Australia, New Zealand, The Cape, Natal and India.

† Figures are not obtainable, as in U.S.A. imports are valued on a different basis.

‡ Including re-exports.

The value of the total exports of all these groups has increased rapidly during the eleven years reviewed [except that in the case of the United Kingdom there was a considerable fall before 1894], but the relative parts taken by the various groups of countries have not altered much. Perhaps the most important development is that Australia is exporting more directly to Germany (£2,000,000's worth in 1890, £6,000,000's worth in 1900 according to the German returns). The amount of the Colonial and Indian exports

included above sent to the United Kingdom formed, however, practically the same proportion of their total export in 1900 as in 1890.

The values of exports to and imports from foreign countries and British Possessions is shown in the following tables :—

	Quinquennial Averages. (000,000's omitted.)			
	1883— 87.	1888— 92.	1893— 97.	1898— 1902.
	£	£	£	£
Value of EXPORTS from the United Kingdom to British Possessions	85	90	82	103
Value of EXPORTS from the United Kingdom to Foreign Countries ...	199	218	203	232
Subtract 90 per cent.* of Coal, <i>i.e.</i> of	10	16	16	28
Subtract 90 per cent.* of Re-exports, <i>i.e.</i> of ... ..	59	64	58	64
British Produce (other than Coal) to Foreign Countries ... ..	136	146	147	149

\* British Possessions take little of these groups ; 90 per cent. is a very rough estimate for the proportion taken by Foreign Countries.

The increase to Foreign Countries is half due to coal exports. It is now the custom to regard these as differing from other exports ; but so far as the employment of British industry is concerned, coal is remarkable as receiving nearly all its money value from the labour and capital expended in winning it.

Including coal, the proportion taken by the

Colonies has remained at 30 per cent. throughout; excluding coal and re-exports it has increased from about 36 per cent. to about 38 per cent. of the remainder. The proportion to Germany and France has changed little, that to the United States of America has diminished considerably. The exports of British manufactures (according to the "Fiscal Blue Book" nomenclature) to these countries has been:—

	Annual Averages. (000,000's omitted.)		
	1890—92.	1893—97.	1898—1902.
	£	£	£
To Germany, Belgium, and Holland	30	32	34
To France and Italy ... ..	16	13'4	16
To U.S.A. ... ..	26	20	16

Turning to IMPORTS we find:—

VALUE OF IMPORTS RECEIVED BY THE  
UNITED KINGDOM.

	Quinquennial Averages. (000,000's omitted.)			
	1883—87.	1888—92.	1893—97.	1898—1902.
	£	£	£	£
From British Possessions ...	89	95	94	106
From Foreign Countries ...	311	324	331	400

The proportion from Foreign Countries has remained about four-fifths of the whole throughout the period.

The Self-governing Colonies lie chiefly in the temperate zones, and have not yet developed manufactures for export; their exports to us consist to a very great extent of timber, wool, cereals, fruit, cheese, &c., which enter into direct competition with the products of British agriculture. Our imports from foreign countries are more general, every branch of British industry has to face their competition; but we should remember that they supply us with the great bulk of our raw materials, except wool (where the foreign supply is of a special and essential kind), and tin. Cotton, tobacco and wine are almost all from foreign sources.

There have been no very important changes in the relative proportions of the main groups of Imports (as on p. 53) contributed by the Colonies. A broad study of the sources of Imports, then, shows very few important changes, but rather a steady development in all directions.

### 8. *Summary.*

From the point of view of the producer it does not matter whether goods are sold in the home, the colonial, or the foreign market, unless the indirect effects of the sales or future demands for his produce differ in the three cases. The proportion that at a particular time is exported depends immediately on the relative prices which can be obtained by home and foreign sales; and since

very little bullion crosses the sea, and therefore exports (unless they pay debts or are connected with loans) are paid for by imports, we shall find exports increasing when it becomes more profitable to exchange our goods for foreign or colonial goods than for home products, and *vice versâ*. *That exports should be great or little is then no criterion whatever of prosperity even from the producer's point of view*; before we can form any judgment at all we must know as much about the product for the home, as for the foreign and colonial, markets. The only test we have at present consists in the consumption of raw material, which has increased with extraordinary rapidity in recent years.

The proportion that the foreign trade bears to the home trade of a nation differs greatly according to its industrial condition. At present we can obtain all the food and raw materials we need by exporting commodities to the value of about £250,000,000, and by rendering other services. As our productive power has increased, we have found it more profitable to produce for the home market and to increase the supply of those goods and services which cannot in the nature of things be imported. It seems not improbable that this would have happened without any adverse tariffs, though not to the same extent; adverse tariffs of course tend to diminish the profitableness of export as compared with home production.



We may put our foreign trade (averaged for the last decade) in the following form :—

IMPORTS.* (000,000's omitted.)				EXPORTS.† (000,000's omitted.)			
			£				£
Food	...	...	180	Coal	...	...	20
Raw material	...	...	100	Manufactures	...	...	215
Other goods (see p. 53)	...	...	120	Miscellaneous	...	...	15
			<hr/> 400				<hr/> 250

\* Including only those retained at home.

† Of British produce.

Balance £150,000,000, which is made up by earnings of our ships (say £80,000,000), interest due to us (say £90,000,000), less new capital lent abroad (say £20,000,000).

These figures are rough and the details for the balance incapable of exact calculation; but they serve to indicate that our exported manufactures pay for the manufactures we import and for all the raw material used in our output for the home as well as the foreign market. At the same time the food we need could be partly paid for by our ships, while most of the rest could come as interest due. Unless then our mercantile navy declined and the capital held by us abroad diminished relatively to our population (which some allege, with very little evidence, is already the case), we could still obtain the food we need, even if our exports of manufactures diminished considerably.

It is a matter of common knowledge that we can purchase any goods we please in any part of

the world so long as we can pay for them (and have no tariff against them). If there were any shortage of our foreign food supply, we should reduce our purchases of foreign manufactures and increase our purchase of foreign food; and this change would take place by the ordinary action of the market on prices. On the other hand foreign nations must dispose of their surplus and leave open some avenue of payment, which we as chief debtors should find special facilities for using.

From these considerations there seems very little cause to anticipate in the near future, or until conditions have changed very greatly, any difficulty in the supply of food, whatever the height of foreign and colonial tariffs.

It is not intended to deny that tariffs against our goods cause us considerable loss; but only to maintain three propositions: (i.) value and quantity of exports are no criterion of our manufacturing prosperity, (ii.) the relative proportions of home and foreign trade may be expected to fluctuate from time to time, even under the most favourable conditions, (iii.) there is no immediate cause for alarm as to the supply of food and raw materials.

There are two other points to notice in this connection. First, the quantity of exports diminishes or of imports increases (other things being equal), when capital is withdrawn from abroad and invested at home, and *vice versa*; so that the very prosperity of home industry may cause a shrinkage of exports. Secondly, since all the civilized nations of the

world have taken to manufacturing the commodities in which we used to hold the lead, the great competition has necessarily cut profits both in the foreign markets and at home; under these circumstances, it is more profitable to turn to other goods for whose production we have a natural monopoly or special facilities from our access to cheap raw materials.

We are without a great part of the information necessary to decide whether the above view of the case is correct. We do not know the consumption of raw materials at all exactly, nor how much labour is wedded to them in the finished products, and therefore we cannot tell how the intrinsic value of those products is increasing. The earnings of our ships must remain a matter of conjecture, and the state of our capital and interest account with foreign nations a matter of inference based on uncertain data. There is even doubt as to the accuracy of the foreign trade returns themselves. The facts that we have tend to support the following proposition, which may hold the field till it can be expelled by the force of fresh knowledge: *The total output of our manufactures has increased greatly in recent years; the part exported to foreign nations has increased a little, that sent to the colonies considerably, but that retained for home consumption most.*

## CHAPTER III.

### THE PROGRESS OF FOREIGN NATIONS.

[*Authorities* :—The Statistical Abstract for Foreign Countries ; the “ Fiscal Blue Book ” ; “ Economic Journal,” 1898, p. 474.]

WE have practically no information, in an accessible form, as to the industrial progress of any foreign nations except Germany, Belgium, France and the United States ; and we have no sufficient statistics even for these countries to form anything like an accurate judgment. In discussing the progress of the United Kingdom we found it necessary to estimate wages, incomes, prices, amount of employment, and pauperism, to supplement these estimates by statistics of consumption and of savings, and in discussing trade to get estimates of the use of raw material. Even with fairly good figures as to these, we were compelled to suspend judgment on several points. For foreign countries we have only uncriticized estimates of wages and prices, statistics of the consumption of a few raw materials, and some of production for external markets ; but, so far as the present writer is aware, there are not available any comparative statistics (sufficiently complete to support

any general argument) of incomes, pauperism, employment, consumption of ordinary necessities, consumption of many important raw materials in manufacture, or production for the home market, for any foreign nation whatever : there are certainly none yet known to the British public.

The statistics now generally quoted relate to the wages of some groups of workpeople, without reference to the shifting of occupation which has been so important in England, to the prices of meat and agricultural produce, in an uncriticized form and without reference to the amount consumed, and to the values of exports of so-called manufactured goods, without any of such critical analysis as was applied above (pp. 42 *seq.*) for the United Kingdom.

There is as yet no agreement as to the basis of comparison. Is the test to be the income per head measured in commodities or the industrial importance of the nation in the world? If the former, we have as yet no data; if the latter we need to know, not the magnitude of the export trade, but rather the effective capital of the nation, and except for the much criticized census-statistics of wealth of the United States, and for Sir Robert Giffen's rough estimates (not brought up to date) for the United Kingdom, we have again no data.

Under these circumstances it is quite futile to attempt any scientific measurement of foreign progress. All that we can do is to point to particular phenomena, and say there has been a growth in

one respect, and it may or may not be neutralized by decadence in another.

*Wages.*—The figures are insufficient, but so far as they go there is very little to choose between the increase of money wages in England, France, Germany and the United States, whether we look back ten, twenty, or thirty years. Money wages for the same class of labour now are higher in the United States than in Great Britain, and higher in Great Britain than in France, Germany, or Belgium.

*Retail prices.*—No reliable comparison can as yet be made with former years, though data are accumulating.\* In 1902 wheat was about the same price in the United Kingdom, the United States and Belgium, dearer in Germany and yet dearer in France. Beef is stated to have been about the same price in England, France and Germany, and cheaper in Belgium and at New York. For sugar England was much the cheapest and France the dearest of these countries.

*Consumption.*—There are no sufficient figures, except for wheat, rye, sugar, tea and coffee; as these account for very different proportions of workmen's expenditure in the different countries,

\* The figures we have for Germany ("Fiscal Blue Book," pp. 223—226) show that the course of prices in the last fifteen years has been similar there and in England. A comparison with twenty years ago shows a greater fall in England than in Germany. The German figures come from Essen only. The figures given p. 227 (*ibid.*) are of wholesale prices, and show great fluctuations.

and as we know nothing about meat, we cannot make any general estimate.

*Pauperism and regularity of employment.*—There seem to be no statistics suitable for comparison, although *it is in this direction that the influence of fiscal policy is most likely to be felt.*

There is a great field for a statistician, who has sufficient knowledge of the conditions of more than one country, to piece together the scattered information as to wages, prices, and consumption which can be found in the literature of England, France, Germany and the United States, and to give a reasoned estimate of the present position and recent progress of the working classes in these countries. As yet no such estimate is made ; the “Fiscal Blue Book” gives data which make it possible to draw broad conclusions, but not of the statistical nature to which the present pamphlet is limited.

#### PRODUCTION AND EXPORT.

Although we cannot make a critical estimate of the general progress of Germany and the United States, we have certainly enough statistics to make it clear that these countries have greatly increased their consumption of iron and coal in manufacture, and that their production of textile goods has grown considerably. The question we cannot decide is whether or no these developments have resulted in increasing incomes for the producers and falling prices for the consumers ; and therefore we do not



know whether they have tended to the national prosperity.

The consumption of iron in German manufacture\* has caught up that of the United Kingdom, and the output of steel overtaken ours by 30 per cent.; we do not know the output of machinery and other higher products, but the machinery we exported was valued in 1900 at 70 per cent. more than that exported by Germany.

The consumption of iron in the United States of America is twice that of the United Kingdom, and their output of steel three times ours; their export of machinery (including sewing machines) was in 1900 about equal to that of Germany.

The following table shows the estimated consumption of coal and the population:—

	(000,000's omitted.)			
	United Kingdom.	U.S.A.	Germany.	France.
Coal consumed: { 1883 million tons { 1900	134 167	102 235	49 99	31 46
Population ... { 1883 { 1900	35 41	54 75	38 39	46 56

Our *per capita* consumption of coal is still the greatest, but the United States and Germany have gained rapidly.

\* The statements which follow are based on the "Board of Trade Memorandum, 1902" (Cd. 1199), and the "Fiscal Blue Book."



*Cotton.*—Taking the period 1890—1900 we find that Germany has increased her importation of raw cotton considerably :—

Weight Imported into Germany			Exported from Germany.	
	<i>Average for 1890—92.</i>	<i>Average for 1898—1900.</i>	<i>Average for 1890—92.</i>	<i>Average for 1898—1900.</i>
Of RAW COTTON : million cwt. ...	54	74	—	—
Of COTTON YARN : million lbs. ...	37	47	19	15
Of COTTON MANUFACTURES : million lbs. ... ..	3·3	14	66	84

Germany has therefore supplied the increase of her own home market, and increased her export perceptibly ; but the value of the exported cotton yarn and manufactures of Germany, Holland, and Belgium together was in 1900 only one-fifth of that of the United Kingdom, or (from another point of view) was some £6,000,000 more than their imports of similar goods against £65,000,000, the excess of exports from the United Kingdom. In 1890 these figures were practically the same ; Germany gained little in neutral markets in the ten years.

The imports of cotton manufactures and yarns into the United States were, till 1900 at any rate, double the exports in value. The quantity of raw cotton consumed in the United States has been about half the quantity exported for several decades, and has increased rather more rapidly than the population.

*Wool.*—We do not know the home production of raw wool in Germany or France. In the decade 1890—1900 Germany increased her importation of raw wool and yarn perceptibly, but did not increase the weight or value of her exported manufactures:—

Weight Imported into Germany.			Exported from Germany.	
	Average for 1890—92.	Average for 1898—1900.	Average for 1890—92.	Average for 1898—1900.
Of RAW WOOL : million lbs. ...	325	370	—	—
Of WOOLLEN YARN : million lbs. ...	41	55	14	19
Of WOOLLEN MANUFACTURES : million lbs. ... ..	3·4	4·0	50	48

The value of woollen manufactures exported from Germany appears to have been one-half of that of similar goods exported from the United Kingdom in 1890—92, one-third in 1898—1900 ; but the German statistics are not easy to interpret, and may not be properly comparable.

France has not, in recent years, increased her imports of raw wool, and the value of her manufactures has rapidly fallen.

The general conclusion as to textiles is that some foreign countries are supplying themselves the increased demands of their own home markets, but that they do not appear to be making any rapid conquest of neutral markets.

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Those who think that the progress of other

nations is necessarily to our disadvantage, at any rate under their present protective systems, may be anxious to explain away the apparent increased manufacturing output of Germany and the United States, and there are certainly many weak points in the statistical evidence; but the figures we have indicate considerable progress, and, as in the case of the United Kingdom, the burden of proof rests as yet with those who deny it.

Though protective tariffs no doubt hinder the spreading throughout the world of the advantages of industrial progress, there is, in the opinion of the present writer, still no reason to assume that the progress of one nation necessitates the decay of others. The protective systems specially foster the export trades of the protected countries; their object is to get rid of their manufactured goods, and, though particular phases of the process may put the industrial system out of gear, the broad result must be that other countries have a wider and better stocked world's-market in which to buy their goods, as each developing country adds its wares; and, as purchases cannot be made without payment, there is also an increased demand for the products of the purchasing countries. If any particular country puts difficulties in the way of this direct purchase, the most probable result (of which there are already indications) is that she will have to pay with more of her commodities indirectly.

## CONCLUSION.

IT must be admitted that our statistics and those of most other nations are insufficient to bear the strain of any general enquiry. It is true that in many of the points, where exact knowledge halts most, opinions could be given by trained and experienced observers, which in ordinary times would carry conviction; but in the present turmoil of argument and misuse of imperfect statistical data, every statement is rightly challenged, and no personal authority accepted till the evidence is unimpeachable.

If an accurate stocktaking of our national wealth, its developments, hindrances and possibilities, is an essential factor in the problem now before the nation, and if it is believed that some action is urgently necessary, there seems no alternative to the immediate appointment of a Royal Commission, which should weigh the uncollated evidence already abundant, and organize rapid enquiries by experts to obtain supplementary information in those directions where results could be obtained in (say) three months; during such a time witnesses who knew the circumstances and recent history of important trades could be examined. The very valuable memoranda,

rapidly put together by the Board of Trade last year, consist in the main of tabulations of statistics, which were already accessible to the public, with critical analyses of their reliability and significance; some special summaries were also made of foreign statistics, which were unknown except to students of the particular subjects, and some estimates from unofficial sources were included. No criticism of the admirable work done is intended to be implied in the statement that we want much more and of a more complete nature. If there were enough force and money behind the demand, we could obtain very quickly some of the estimates already described as lacking.

If, on the other hand, it is possible to postpone radical and far-reaching changes in our economic system, till we have some real knowledge of our recent history, there are many investigations to be started which would take a year or so to come to fruition, and many other groups of facts whose ascertainment might be commenced at once and continued year by year. For yet other groups knowledge has recently been systematized and the directions of change will almost immediately be observed.

It would be impertinent for a layman to say what can and what cannot be done by Public Departments, which have been endeavouring, in many cases with marked success, to improve the official sources of information; and no doubt some

of the following suggestions are impracticable and all need modification.

In the opinion of the present writer the following groups of reports should be called for :—

#### A. REPORTS TO BE MADE ON EXISTING MATERIAL.

*Wages.*—A comparison of wages now and in 1886 on the basis of the Census Reports, Factory Returns, the Wage Census of 1886, and the Labour Department Wage Statistics.

*Occupation.*—A special report showing the changes of occupation district by district and for the whole country, between 1891 and 1901, criticizing and showing the effect of the changes of classification.

*Trade.*—A return carrying the new tabulation of imports and exports, so far as its main headings are concerned, back to 1883, with estimates where the statistics are missing.

*Pauperism.*—A critical return discussing how far the diminution of pauperism is due to, or in spite of, changes in methods and systems of relief.

#### B. SPECIAL ENQUIRIES REQUIRING NEW INVESTIGATIONS.

*Wages.*—A Census specially arranged to be comparable with the Wage Census of 1886.

*Unemployment.*—An enquiry as to the number of capable men now out of work in selected

localities, with such information as is practicable as to the causes of their want of work.

*Pauperism.*—A return, classified by *age*, sex, and physical and mental condition of all in receipt of public relief in a selected period.

### C. NEW PERIODIC RETURNS.

*Occupation.*—A quinquennial census of occupations, made strictly comparable from time to time, showing age and sex. If skilled house to house collectors were employed (a matter of instruction and expense) other industrial information could be collected at the same time, and possibly an enquiry as to unemployment conducted by the same organization.

*Prices and Production.*—An enquiry (departmental or otherwise) as to the best means of increasing our knowledge as to prices of wholesale and retail commodities, and of the production of the main staple products, and the establishment of a permanent organization for carrying out the resulting recommendations.

*Consumption.*—An annual official publication of estimates of the consumption of all raw and partly manufactured commodities, concerning which information could be obtained.

A great deal has been done in recent times to break down the tradition that official statistics should be published, as so much raw material, unintelligible to even the instructed public, and



without criticism, analysis, or discussion of the lessons to be drawn. In the suggestions just made, it is implied that this good tendency should be fostered; the data for group A are not complete, but they are sufficient for critical estimates, made by those who understand them, to be of great value.

For carrying out this and similar work, we need men whose business it is to know the facts, digest them, and explain them to the public, and whose time is not occupied with serving tables, and initialing memoranda. We need a department or other organization, which should think out what information is needed and how it can be obtained, and should publish abroad in a literary and intelligible form the facts which it is the nation's interest to know. If such an intelligence organization had existed for twenty years, much of the confusion, mis-statement, and ignorance, now prevalent, might have been avoided.



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OF

# STATISTICS.

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By

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